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ARCHEOLOGICAL INVESTIGATIONS IN WEST-CENTRAL NEW MEXICO

VOLUME 3: REPORT OF THE FINAL FIELD SEASON

David Kayser Charles Carroll

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San Augustine Coal Area

Archeological Investigations In West-Central New Mexico

Volume 3:

Report of the Final Field Season

by

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1988

Bureau of Land Management

Las Cruces District

Socorro Resource Area

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Joel E. Farrell

Chief, Multi-Resources
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Charles Carroll
Socorro Resource Area Archeologist

Abstract

This Class II cultural inventory conducted for the Moderate Production Area of the San Augustine Coal Area in west-central New Mexico includes a review of previous published and unpublished archeological work in the region, and a 10 percent stratified, random sample of the landscape in the Moderate Production Area. The study area was divided into topographic zones. Forty-acre quadrats were then proportionately distributed and subjected to intensive archeological survey and data recordation. Portions of the recorded data are presented in summary. The intensive surveys of selected sample quadrats show that archeological site densities and complexity within the known quadrats range from moderate to extremely high, and certain general similarities can be expected throughout the Moderate Production Area. The multiple-use screen for cultural resources was applied to the area designated as having the highest coal production potential within the Moderate Production Area. Certain areas warranting special mitigative attention are identified.

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Chapter 1

Introduction

The San Augustine Coal Area (SACA) consists of approximately 448,920 acres (165,653 ha.) in northern Catron and southern Cibola Counties of west-central New Mexico. This locale is north of the town of Quemado, New Mexico, and south of the village of Fence Lake, New Mexico (Figure 1.1).

Major highways and roads include U.S. Route 60 on the south, New Mexico State Road 117 on the east, and New Mexico State Road 32 along the western edge of the SACA. Hubbell Road, an improved graded dirt road in Catron County, traverses the coal area east to west from NM 117 to NM 32. Other graded dirt roads lead to most of the ranch houses, but the majority of the roads in the coal area are unimproved dirt trails.

The surface ownership of the SACA is composed of 176,660 acres (65,188 ha.) of federal lands, 117,316 acres (43,290 ha.) of state lands, and 1,544,944 acres (57,174 ha.) of private lands. The subsurface coal estate ownership is 293,931 acres (108,461 ha.) of federal and state public lands, and 154,989 acres (57,192 ha.) of nonpublic lands (USDI, BLM 1984).

Production Areas

The San Augustine Coal Area Management Framework Plan Amendment/ Environmental Assessment (MFPA/EA) (USDI, BLM 1984) poses three production action alternatives. Alternative 1 is a no action plan under which no federal coal would be leased. Alternative 2 is a moderate coal production plan under which some 32,271 acres (11,908 ha.) of federal coal would be leased. Alternative 3 is a maximum coal production plan under which 121,521 acres (44,842 ha.) of federal coal would be leased (USDI, BLM 1984).

This Class II inventory was designed to address Alternative 2, the Moderate Coal Production Alternative of the SACA (Figure 1.2). However, more recent planning for the Socorro Resource Area Resource Management Plan (RMP) focused coal leasing analysis in the SACA on a smaller area (31,640 acres) of leasing within the area of highest economic potential (Figure 1.3).

Purpose and History of the Project

This report documents the completion of a Class II Cultural Resource Inventory of the Moderate Production Area of the SACA. However, changes in goals, methodologies to achieve those goals, and personnel who implemented the methodologies have occurred over time.

Since these changes have influenced the final evaluation of the recovered data, a brief history of the project itself is provided. The goals, opportunities, and limitations of the Class II effort are then restated.

In 1982, several applications for coal leasing in west-central New Mexico prompted the development of the San Augustine Coal Area Management Framework Plan Amendment/Environmental Assessment (USDI, BLM 1984). Among 20 unsuitability criteria in effect in 1982, Criterion 7 (43 CFR 3461.1(g)(1)) instructed that sites "included in **or eligible**

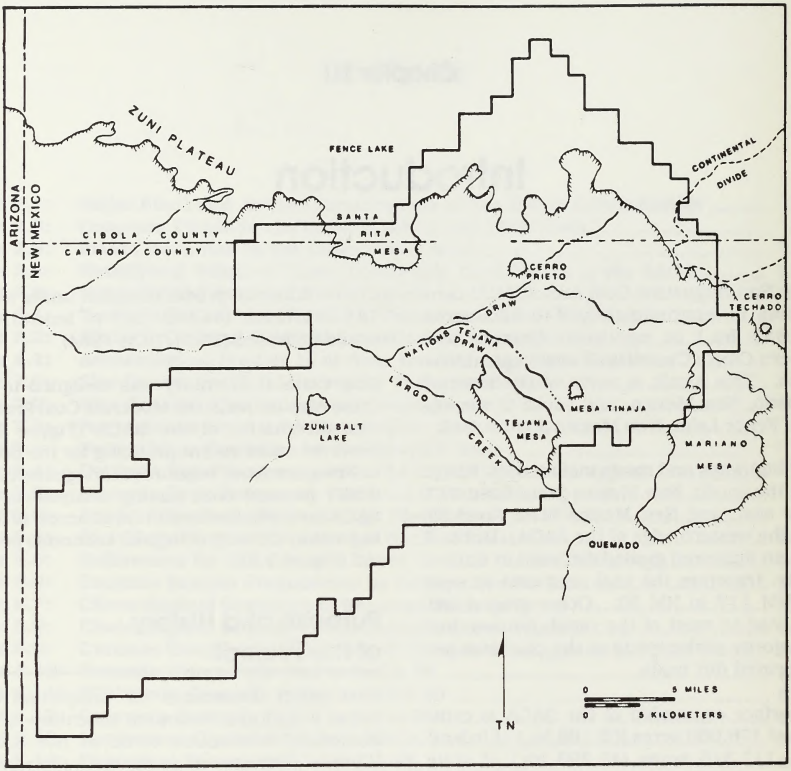


Figure 1.1: San Augustine Coal Area

for inclusion in the National Register of Historic Places, and an appropriate buffer zone . . . shall be considered unsuitable" (emphasis added).

This portion of the federal regulations did two things: (1) it defined as unsuitable for coal mining virtually all federal coal reserves in New Mexico, since sites eligible under National Register Criteria (36 CFR 60.4) are ubiquitous, and (2) it placed on the federal agency the responsibility of applying an unsuitability criterion which required a Class III (100 percent coverage) Inventory. At the outset of the SACA studies, a major Class III Inventory was contemplated (Brian Mills, personal communication 1984).

By June 1983, the idea of a full Class III inventory of the SACA was abandoned as logistically unfeasible, and a plan for a Class II sample survey approved (William Kight, personal communication 1984). This initial sample survey began under a very different design than that reported here. Under the initial design, 10 sections (square miles) were to be walked at 200 meter transect intervals. This process began, but halted when funding was

withdrawn. The archeological crews were shifted to other projects through the winter of 1983-84.

On December 7, 1983, Criterion 7 was changed (FR Vol. 48, No. 236, p. 54820) to include as unsuitable only cultural properties already listed in the National Register of Historic Places, none of which exist within the SACA. However, under the revised Criterion 7, cultural resources remain fully protected by law and managed through regulations implementing Section 106 of the National Historic Preservation Act (1966), as amended, and the Multi-Resource Screen of coal leasing analysis.

In December 1983 and January 1984, there was a major change in the regulatory basis for the archeological sample. This modification

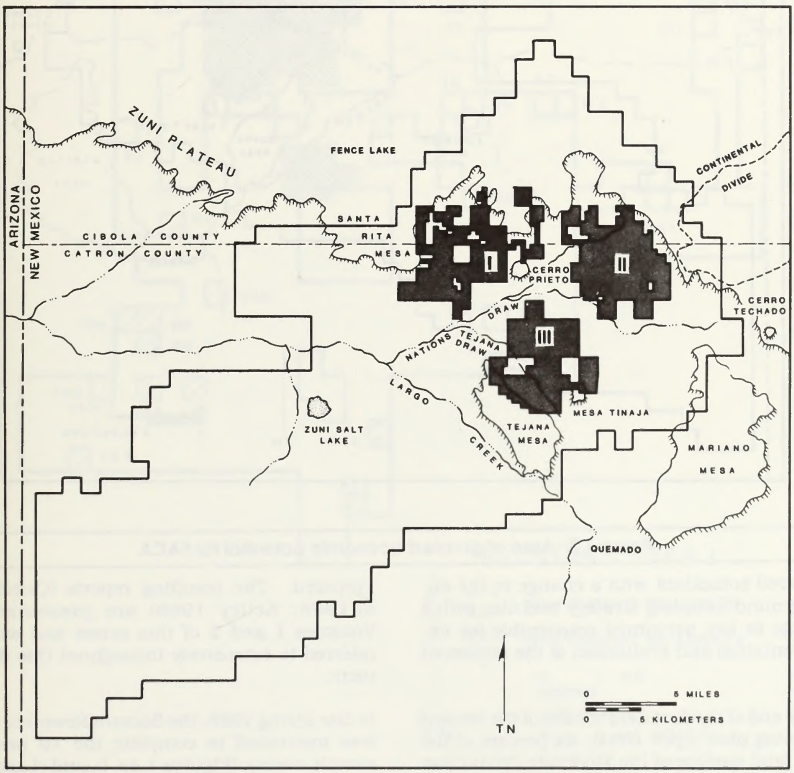


Figure 1.2: Cultural Resource Inventory Areas within the SACA (from Camilli et al. 1988)

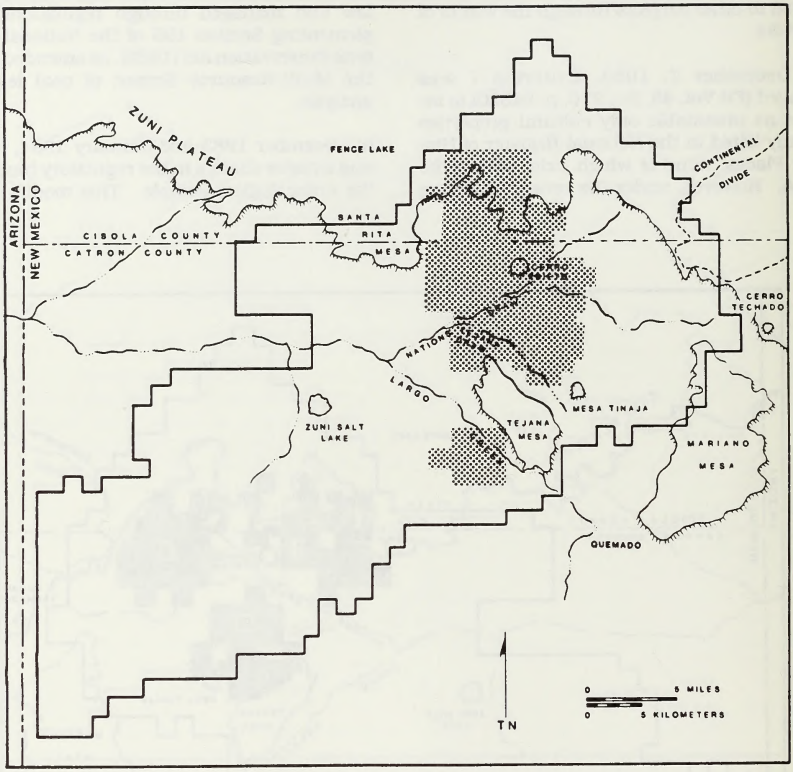


Figure 1.3: Area of greatest economic potential for SACA

occurred coincident with a change in the on-the-ground sampling strategy and also with a change in key personnel responsible for implementation and evaluation of the recovered data.

At the end of the first field season of the revised sampling plan (April 1984), six percent of the total land surface of the Moderate Production Area had been intensively surveyed. Ten percent was established as the fractional goal. Since there was little prospect of further funding for fieldwork, existing data were analyzed at the six percent level and an interim report prepared. The resulting reports (Camilli et al.1988; Kelley 1988) are presented as Volumes 1 and 2 of this series and will be referred to extensively throughout this document.

In late spring 1985, the Socorro Resource Area was instructed to complete the 10 percent sample survey, (Figures 1.4a, b, and c) and the authors joined the project. Fieldwork began in June 1985 and was completed in September. In November 1985, funding for data analysis and final report preparation was withdrawn. In early spring 1986, funding for the final

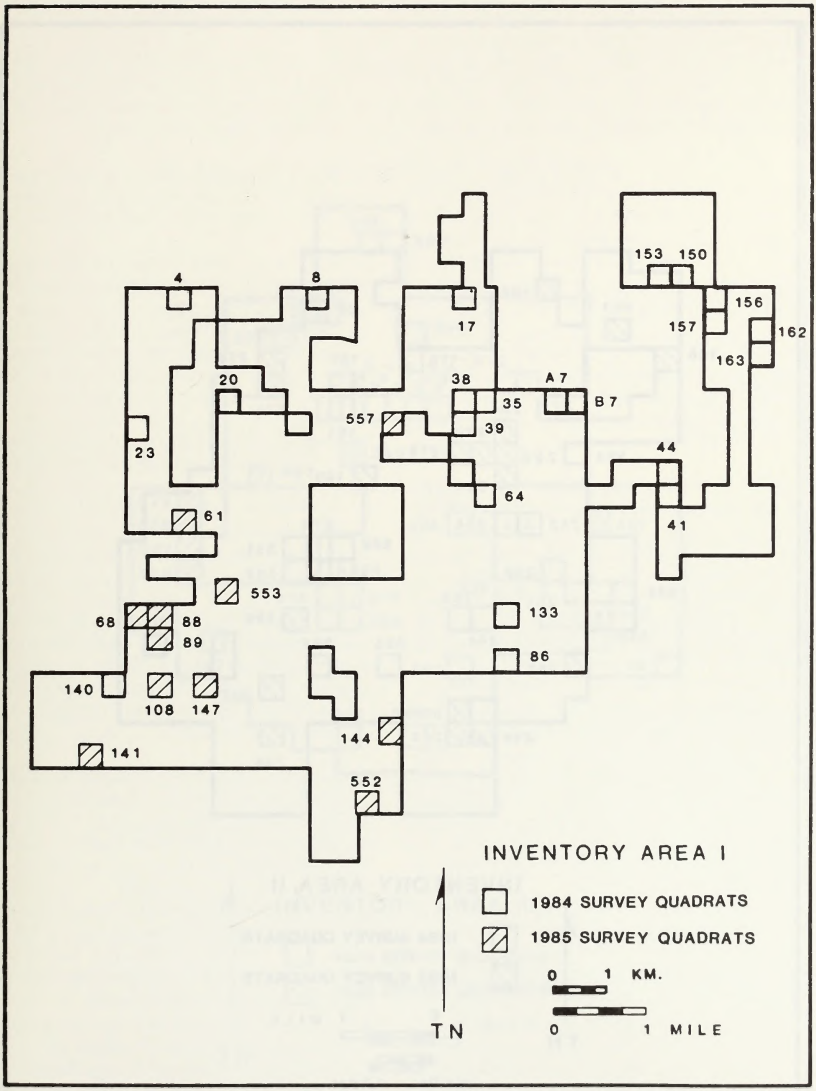


Figure 1.4a: Sample quadrat distribution showing 1984 and 1985 survey quadrats in Inventory Area I (from Camilli et al. 1988)

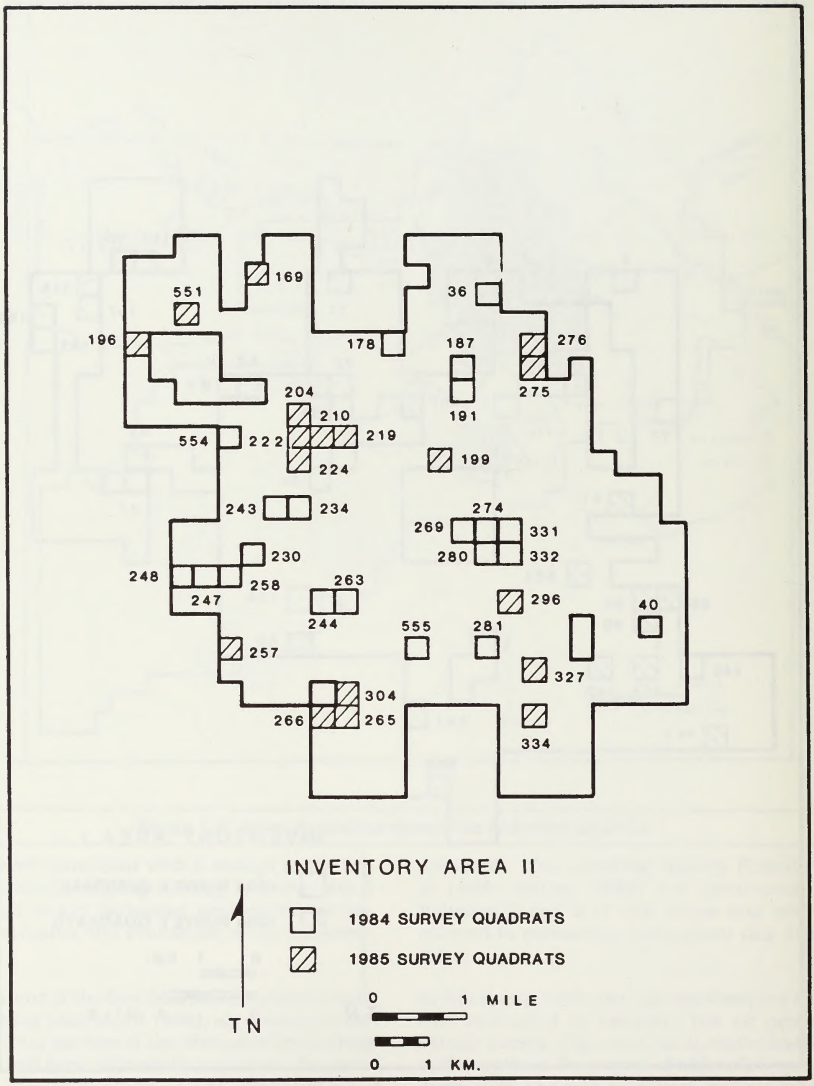


Figure 1.4b: Sample quadrat distribution showing 1984 and 1985 survey quadrats in Inventory Area II (from Camilli et al. 1988)

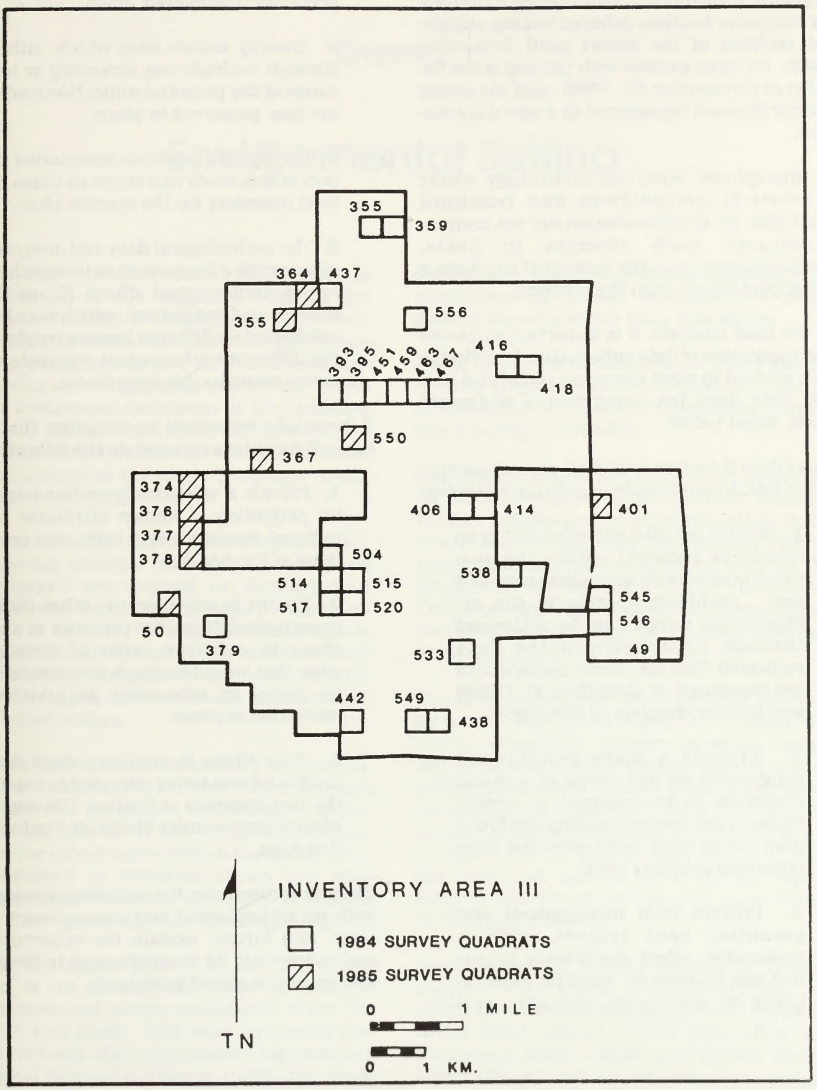


Figure 1.4c: Sample quadrat distribution showing 1984 and 1985 survey quadrats in Inventory Area III (from Camilli et al. 1988)

report was reinstated. Although funding was available, difficulties in establishing a contract for computer analysis deferred writing analytical sections of the report until September 1986. Funding expired with the end of the fiscal year (September 30, 1986), and the senior author (Kayser) transferred to a new duty station.

In disciplines such as archeology where theoretical perspectives and resultant strategies for implementation are not conventionalized, such changes in goals, methodologies, and key personnel can have a significant affect upon the outcome.

In the final analysis, it is important to assess the application of data collected under a design that evolved to meet changing goals, and how this data meet the requirements of present goals, listed below.

This Class II inventory of a 10 percent sample of the SACA countryside can do the following:

1. Provide detailed site information on resources recorded within the surveyed quadrats for immediate scientific use. Problems specific to the archeological record can be addressed through application of the data recovered thus far. Some applications are presented in Camilli et al. (1988) and in later chapters of this report.

2. Provide a more enlightened perspective on the types of cultural resources to be expected in certain topographic settings within the SACA than could have been garnered from unrelated previous work.

3. Provide BLM management and potential coal lessees with a reasonable, albeit statistically imperfect (see Chapter 5), basis for expectations of site type, density, and complexity (i.e., mitigation expense) in presently unsurveyed areas.

4. Identify known sites which, either through multiple-use screening or because of the potential mitigation costs, are best preserved in place.

5. The 40-acre quadrats inventoried as part of this study can stand as Class III level inventory for the specific plots.

6. The archeological data and analysis can provide a framework to tie together future archeological efforts (Class III surveys and mitigation), which may be conducted by different lessees employing different archeological contractors over a considerable time frame.

It is equally important to recognize that this Class II inventory can **not** do the following:

1. Provide a statistically perfect basis for projection of known attributes of cultural resources into unknown portions of the SACA.

2. Predict in any manner, other than gross probabilities, the presence or absence in unknown areas of specific sites that would warrant preservation in place, or represent prohibitive mitigation expense.

3. This Class II inventory does not meet, and was never intended to meet, the requirements of Section 106 compliance for the entire Moderate Production Area.

Chapter 5 discusses the sampling strategy in both its archeological and management contexts, and further explain the opportunities and constraints for its application to the goals and problems stated previously.

Chapter 2

Environmental Setting

The SACA in west-central New Mexico is situated on the Mogollon slope of the Colorado Plateau (Fitzsimmons 1959:114). The Mogollon slope, on the southern portion of the plateau, is a structural unit of sedimentary rocks which dip gently southward. Overlaying continental sediments of the Mesozoic and early Cenozoic are accumulations of later Cenozoic basaltic volcanism which seem to dot the landscape of the slope (Guilinger 1982; Fitzsimmons 1959).

Within the Moderate Production Area, Cretaceous Mancos Shales and Mesaverde Sandstones are capped by Tertiary and Quaternary basalts and other volcanics (Camilli et al. 1988). Various erosional agents acting differentially upon these strata created a landscape distinguished by mesas, buttes, benches, ridges, cuestas, knolls, and broad alluvial filled valleys.

The late Cretaceous continental sedimentation is represented by interbedded standstones, siltstones, mudstones, claystones, and shales of the Mesaverde Group. This is the oldest unit visible in the survey area and consists of yellowish brown and gray sedimentary formations indicative of carbon rich coastal plain deposits (Guilinger 1982).

Within the upper portion of the Mesaverde group is an anomalous zone of reddish sandstones and purple mudstones about 90 feet (27.4 m) thick. This zone represents the basal remnant of a paleo-weathering profile of a tropical paleosol (Guilinger 1982). The clays from such soils generally are high in kaolin content. Resting uncomformably over the Mesaverde strata is the red bed sequence of sandstones, conglomerates, claystones, and mudstones of fluvial, intermontane basin Eocene deposits of the Baca Formation.

Fossil fragments of titanotheres, a late Eocene or early Oligocene mammal, have been found in sandstone strata of the upper Baca Formation (Guilinger 1982:47).

Capping the earlier sedimentations are basaltic lava flows, volcanic wackes, basaltic boulder conglomerates, other volcanics, claystones, mudstones, and sandstones. These various formations are dated as early as the Oligocene and as recent as the Pleistocene. The basalt flows are of olivine or olivine-augite and sometimes contain rare mafic xenolithics (Guilinger 1982:12).

The topographic relief of the SACA is provided by mesas and valleys (Figure 2.1). Major features, formed by erosion-resistant basalt caprocks, rim a lower central area of eroded sedimentary strata. On the north are the Continental Divide Uplands (7,600 ft./2,316 m), to the east is Mariana Mesa (7,800 feet/2,350 m), to the west is Santa Rita Mesa (7,450 feet/2,271 m), and on the south are Tejana Mesa (7,500 feet/2,262 m) and Mesa Tinaja (7,726 feet/2,355 m).

Dominating the central portion is basalt-capped Cerro Prieto (7,422 feet/2,262 m), which is surrounded by expanses of broad alluvial filled valleys (6,600 feet/2,013 m). Numerous other mesas and buttes (6,800 feet/2,074 m) and low benches, spur ridges, cuestas, and knolls (6,650 feet/2,027 m) were formed from sandstone and shale formations.

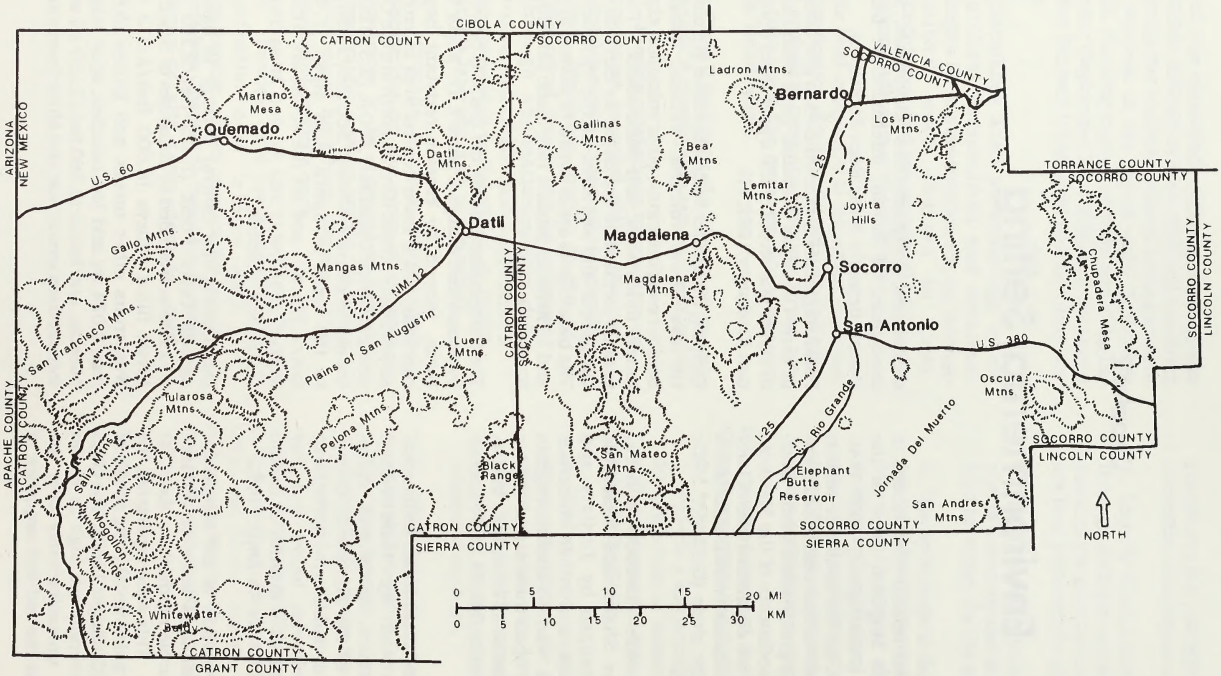


Figure 2.1: Topograhic and other features of the Socorro Resource Area (Los Alamos National Laboratories 1985).

Presently, there are no permanent streams and few springs in the survey area. Within a few miles, at the Continental Divide, drainages flow in almost every direction to all the major tributaries of the Southwest watershed between the Rio Grande and the Colorado River (McGimsey 1980:1).

The drainage pattern in the survey area is a well-developed dendritic system of ephemeral streams which drain an area of some 400 square miles (1,036 sq. km). The area is within the Little Colorado River drainage and forms the most southeastern fingers of the system.

The named drainages include Hubbell Draw, Single Mill Draw, Long Canyon Draw, and Lee Draw draining into Nations Draw from the eastern side of the survey area. On the north, Puertecito Draw discharges into Frenches Arroyo.

Soils in the SACA were formed with materials derived from various sources such as igneous and sedimentary rocks, and alluvial or, rarely, eolian sediments. The parent materials of the majority of the soils in the survey area are of residuum, colluvium, and alluvium sources. The nature of the parent material affects or determines the texture, structure, consistency, color, erodibility, and natural fertility of the soils formed in them (Johnson 1985:103).

In the survey area, there are five main groupings of soil types. These are the Catman-Manzano-Hickman, Cabezon-Datil-Hubbell, Celacy-Datil-Typic Ustorthents, Flugle-Loarc-Typic Ustorthents, and Tolman-Smilo-Pleioville groups (Johnson 1985:General Soil Map).

The level to gently sloping drainage valleys, bottomlands, swales, and playas contain soils formed in alluvium. The Catman-Manzano-Hickman group represent typical soils in this area. These soils tend to be deep, well-drained, and slowly permeable. However, some of these soils are slightly to strongly affected by salts and alkali buildup (Johnson 1985:5). These soils support a rich grassland vegetation cover.

The rolling hills and fans have soils formed either in alluvium or residuum. The Cabezon-Datil-Hubbell and the Celacy-Datil-Typic Ustorthents are the soil groupings found here. These are shallow to deep, well-drained, and moderately permeable soils.

The Cabezon soil type is formed in residuum derived from basalt flow materials. The Celacy soils form in interbedded sandstone and shale residuum. Hubbell soils formed in alluvium derived primarily from volcanic ash and cinders. The other soil types have formed in alluvium from mixed parent sources. Vegetation cover is mainly grasses with scattered shrubs and isolated stands of piñon and juniper.

The major soil group in the SACA is the Flugle-Loarc-Typic Ustorthents group. These are shallow to deep, well-drained, moderately permeable, level to steep soils on the alluvial fans, hills, mesas and ridges of the survey area. Flugle and Typic Ustorthents soils are formed in alluvium, while Loarc soils have developed in alluvium modified by wind action (Johnson 1985:7). The vegetation supported by this grouping consists mainly of piñon, juniper, understory plants, and grasses.

Soils of the Tolman-Smilo-Pleioville group are found on the bedrock controlled plains and mesas of the uplands. These are shallow to moderately deep, well-drained, slowly to moderately permeable, level to steep soils on fans, hills, mountains and plains. Tolman soils formed in residuum derived primarily from tuff. The Smilo soils were formed in basaltic residuum. Pleioville soils are on the high plains and were derived from conglomerate residuum (Johnson 1985:9). Grasslands are present in the upper plains but the dominant vegetation is woodlands.

Vegetation and wildlife communities in the survey area are closely associated (Table 2.1). The vegetation in the coal area is sensitive to moisture, soil type, elevation, slope, and exposure. Wildlife is sensitive to the vegetation type, available water, landform, and other factors.

In the bottomlands, the alluvial sediments support a rich vegetation of grasslands or mixed grass-shrub communities (Hogan et al. 1985:3). The major grass species are blue

Table 2.1: Major Plant and Animal Consitutents of the Biotic Communities within SACA

Biome Community	Shortgrass-Grasslands Hubbell Draw	Piñon-Juniper Woodlands Hubbell Draw	Ponderosa Pine Forest Continental Divide Uplands	
			Forest	Parkland
Dominant vegetation	blue grama galleta sand dropseed fleabane winterfat wolfberry juniper piñon	fringed sage rabbit bush piñon one-seed juniper ponderosa pine gambel oak skunk bush	ponderosa pine gamble oak alligator juniper buckbrush squirrel tail lupine rabbitbrush New Mexico locust mountain muhly Arizona fescue mutton grass golden pea	Arizona fescue mountain muhly pine dropseed squirrel tail muston grass western yarrow ponderosa pine buckbrush skunk bush gambel oak geranium red & yellow pea
Mammals	pronghorn blacktail jackrabbit desert cottontail gray fox coyote	elk desert cottontail kit fox spotted skunk deer mouse pocket mouse kangaroo rat	elk muledeer Albert's and golden mantled squirrel porcupine mountain lion	elk muledeer badger Valley Pocket gopher bobcat coyote
Birds	meadowlark night hawk horned lark chestnut collared longspur	lark sparrow black throated gray warbler black-chinned sparrow Bush-tit rock wren	turkey goshawk mountain chickadee golden eagle ruby crowned kinglet	turkey western bluebird chippin sparrow Lazuli bunting pygmy nuthatch

(Compiled from Plog 1981; BLM; others)

grama *(Bouteloua gracilis)*, western wheatgrass *(Agropy smithii)*, alkali sacaton *(Sporobolus airoides)*, and squirreltail *(Sitanion hystrix)*. Dominant shrubs include broom snakeweed *(Gutierrezia sarothrae)*, fourwing saltbrush *(Atriplex canescens)*, rabbitbrush *(Chrysothamnus nauseosus)*, wolfberry *(Lycium sp.)*, and prairie sunflower *(Helianthus petiolaris)*.

These low-lying grasslands and mixed grasslands-shrubs support a wildlife community that includes pronghorn antelope *(Antilocopra americana)*, coyote *(Canis latrans)*, black-tailed jackrabbit *(Lepus californicus)*, spotted ground squirrel *(Spermophilus lateralis)*, banner-tailed kangaroo rat *(Dipodomys spectabilis)*, Botta's pocket gopher *(Thomomys bottae)*, silky pocket mouse *(Perognathius flavus)*, prairie dog *(Cynomy's sp.)*, meadowlark *(Sturnella neglecta)*, sparrow hawk *(Falco sparverius)*, horned lark *(Eremophilia alpestris)*, western spadefoot toad *(Scaphiopus hammondi)*, leopard lizard *(Gambelia wizlizenii)*, and prairie rattlesnake *(Crotalus viridis)*.

On the hills, low mesas, and alluvial fans in and near the bottomlands, the grasslands still dominate, but scattered woods do occur in these lower uplands. Piñon *(Pinus edulis)* and juniper *(Juniperus monosperma)* form an open woodland community with an understory of mixed grasses and shrubs similar in composition to the lowland grassy communities.

Wildlife in the piñon and juniper open woodlands include mule deer *(Odocoileus hemionus)*, gray fox *(Urocyon cinereoargentus)*, porcupine *(Erethizon dorsatum)*, chipmunk *(Eutamias dorsalis)*, piñon mouse *(Peromyscus truei)*, white-throated woodrat *(Neotoma albiqua)*, piñon jay *(Gymnorhmus cyanocephayus)*, scrub jay *(Aphelocoma coerulesans)*, northern plateau lizard *(Crernidophorus velox)*, and black-tailed rattlesnake *(Crotalus molossus)*.

In the uplands, the piñon-juniper woodlands dominate over the grasslands. In the elevations above 6,500 feet (2,042 m), the major understory species associated with the piñon-juniper include mountain mahogany *(Cercocarpus sp.)*, oak *(Quercus sp.)*, rubber rabbitbrush *(Chrysothamnus nauseosus)*, globe mallow *(Sphoeralcea diaitata)*, blue grama *(Bouteloua gracilis)*, broom snakeweed *(Gutierrezia sarothrae)*, wolfberry *(Lycium sp.)*, saltbush *(Atriplex sp.)*, squawbush *(Rhus trilobata)*, narrow leaf yucca *(Yucca glauca)*, annual sunflower *(Helianthus annus)*, buffalo gourd *(Cucurbita sp.)*, and prickly pear *(Opunita sp.)* (USDI, BLM 1982). Occasionally, a ponderosa pine *(Pinus ponderosa)* occurs in the piñon-juniper woodlands.

The wildlife community of these upland woodlands includes occasional elk *(Cervus elaohus)*, mule deer *(Odocoileus hemionus)*, brush mouse *(Peromyscus boylii)*, woodrat *(Neotoma sp.)*, gray fox *(Urocyon cinereoargentus)*, bobcat *(Lynx rufus)*, ringtail *(Bassariscus astutus)*, spotted skunk *(Spilogale gracilis)*, striped skunk *(Mephitis mephitis)*, cliff chipmunk *(Eutamias dorsalis)*, porcupine *(Erethizon dorsatum)*, rock squirrel *(Spermophilus variegatus)*, mountain cottontail (Sylvilagus nutallii), rock mouse (Peromyscus *difficilis)*, scrub jay *(Aphelocoma coerulesans)*, piñon jay *(Gymnorthinus cyanocephalus)*, Gambel's quail *(Lophortyx gambellii)*, Berwick's wren *(Thryomanes bewickii)*, plain titmouse *(Parus inornatus)*, raven *(Corvus corax)*, common flicker *(Colaptes auratus)*, chipping sparrow *(Spizella passerma)*, Rufous hummingbird *(Selasphorus rufus)*, ash-throated flycatcher *(Myiarchus cinerascens)*, short-horned lizard *(Phrynosoma bouglassi)*, collared lizard *(Crotaphytus collaris)*, red-spotted toad *(Bufo punctatus)*, black-tailed rattlesnake *(Crotalus molossus)*, rock rattlesnake *(Crotalus lepidus)*, mountain patch-nosed snake *(Salvadora grahamiae)*, and Sonoran kingsnake *(Lampropeltis pyromelana)*. Cliffs, ledges, and rock outcrops in those wooded uplands provide nesting and roosting habitat for the prairie falcon *(Falco mexicanus)*, red-tailed hawk *(Butea jamaicensia)*, great horned owl *(Bubo virginianus)*, and golden eagle *(Aguila chrysaetos)*.

Environmental Utilization

The natural environmental characteristics of the SACA have been described in the previous section. In this section, selected portions of that environmental setting are considered

from "the perspective of the prehistoric people whose survival was dependent on their ability to harness the resources and overcome the environmental difficulties of the area" (Plog 1981:30).

Geologic Resources

Geologic resources in the SACA are useful as raw materials for the manufacture of tools and other portable artifacts and the construction of stationary features and dwellings. The later Cretaceous continental sedimentation represented by the interbedded sandstones and other similar materials of the Mesaverde Formation probably provided some of the clays and tempering materials for the manufacture of ceramics. White kaolin clay is exposed at a number of locations within the SACA.

The Mesaverde sandstones were frequently used as building material after A.D. 900 when surface architecture became the mode for habitation. Sometimes, the sandstones were used in their natural blocky form or broken crudely into shape or, as at certain sites, the raw sandstone was shaped into blocks. Often the dark patinized surfaces of the sandstones were incised, ground, or pecked to display various rock art designs and elements.

Overlaying the Mesaverde strata are the red bed sequences of sandstones, conglomerates, clay-stones, and other materials of the Baca Formation. Additional suitable clays for ceramic production are found in these formations. Camilli et al. (1988) report that Baca mudstones outcropping to the morthwest of Mesa Tinaja have yielded clays suitable for the manufacture of ceramics. Others are visible throughout the project area.

The conglomerates of the Baca Formation contain clasts of quartzite, milky quartz, jasper, and silicified wood which are suitable for making lithic tools. The Miocene sandstones and conglomerates of the Fence Lake formation contain clasts of basalt, rhyodacite, rhyolite, chert, sandstone, and quartzite useable in lithic tool production. Capping the sediments are more recent flows of basalts and other volcanics, which also provided materials for use by the prehistoric and historic inhabitants of the SACA.

The sandstone and the basaltic formations within the SACA were used to make mortars, metates, manos, mauls, axes, and other implements. Quartzite cobbles from the Baca conglomerates were manufactured into manos, hammerstones, pestles, and a wide variety of flake tools. For example, one Archaic period site contained over 20 quartzite manos.

Obsidian was not noted in any of the geological formations in the study area. A source for obsidian does occur some 30 miles (48 km) southwest near Red Hill, New Mexico. This occurrence is described (Cameron and Sappington 1984:159) as clasts up to 15 cm long in gravels. The source of the obsidian-bearing gravels has not been located, but the gravels appear to underlie and overlie basalt flows in the Red Hill area.

Relief and Topography

Within the SACA, a number of topographic features were identified as being used by the prehistoric inhabitants. Many early, preceramic sites are located on promontories overlooking the broad alluvial valleys of the central area and the narrow valley passes on the continental rim of the north side of the SACA. High relief features, such as promontories, volcanic necks, and high peaks are often the location of prehistoric and ethnohistoric shrines.

Later ceramic villages occupied many of the basalt-capped mesas. Other villages were located on the ridges overlooking the broader valleys and draws. Favored village locations included the terraces above the floodplains. Slope relief areas, if south-facing for maximum solar gain, were also selected for various uses. Villages and sometimes simple water control devices are found in these areas. Natural passes such as Puertecito Draw, Long Canyon, and the head of Hubbell Draw provide natural transportation corridors to other nearby cultural areas. Puertecito Draw climbs upward onto the north side of the Continental Divide uplands and the Fence Lake-Atarque area. Long Canyon is a steep pass onto the eastern side of the Continental Divide uplands and, like the head of Hubbell Draw, a natural pass to the North Plains and the Acoma Cultural Provenience.

Drainages and Springs

The drainage system of SACA has no permanent streams and few springs. This was probably also true of the prehistoric past. However, the drainage system collects precipitation from over 400 square miles and provides the potential for effective floodwater farming. Springs were utilized and both prehistoric villages and historic homesteads are found near them. One prehistoric well is on Mariana Mesa in the eastern area of the SACA. A second well, possibly of prehistoric origin, is located at Old Tejana Well on Tejana Draw.

Soils

Many of the soil groups in the survey area are high in alkalinity, which is generally not favorable for corn agriculture.

However, Plog (1981:32) recently remarked that the Hopi have maintained strains of corn specifically adapted to particular climatic and environmental extremes. Moreover, some or all of the native strains may be more tolerant of pH conditions unfavorable for modern corn (Plog 1981:32).

Another possibility is that alternate food crops such as sunflowers and/or amaranth along with beans and squash were grown in place of corn. The higher relief areas have thin soils which are less alkaloid, but the lower areas have deep soils which could be used for agricultural purposes.

Vegetation

Most of the vegetation in the survey area has been used by man in the prehistoric, historic, and recent past. Plants commonly used for food, medicinal, or other uses are numerous (Tables 2.2 and 2.3). A study (Gasser 1978) in an adjacent area lists the 10 most important food plants such as corn, goosefoot, Indian rice grass, wild buckwheat, winged pigweed, sunflower, globe-mallow, juniper, purslane, and pepper grass. All of these plants are found within the SACA. The nutritional characteristics of common plants in the survey area are given are Table 2.4.

Plants such as juniper, piñon, and other woody species provided fuel wood and construction wood. Mountain oak is present and also may have been used as a fuel wood. Fuel wood utilization over a period of time could create serious environmental and social problems as recently pointed out by Plog (1981:38-41).

Fauna

The wide variety of animals found in the study area provided residents with many potentially important food sources. Present, and considered most important (Plog 1981:33), are cottontail, jackrabbit, antelope, deer, elk, porcupine, and various small rodents and lizards. Birds such as quail, turkey, jays, flickers, and other species may all have provided food. The meat yields of some of these animals are given in Table 2.5.

Table 2.2: Common Plants in the General San Augustine Coal Area and Their Uses

Name	Common Name	Part Used	Season	Use
Pinus edulis	piñon	nut	fall	E,M,O
Juniperus sp.	juniper	berries	fall	E,M,O
Sporobolus sp.	alkali-sacaton, dropseed	seed	June-October	E
Oryzopis humenoides	Indian rice grass	seed	June-August	E
Scirpus sp.	bullrush	stalk		E
Tradescantia sp.	spiderwort	greens, root	Spring, August-September	E,M
Allium sp.	wild onion	bulbs	April-August	E,M
Calochortus sp.	mariposa, sego lily	bulb	April-June	E,M
Yucca sp.	yucca	root, bud	April-July	E,M,O
Juglans major	walnut	nut	fall	E,O
Quercus sp.	oak	nut	fall	E,O
Celtis reticulata	hackberry	berry	summer	E,M,O
Morus microphylla	mulberry	berry	summer	E
Urtica sp.	nettle	greens	spring	E,M,O
Phoradendron sp.	mistletoe	berries		
Rumex sp.	dock	stems, leaves	March-April	E,M,O
Chenopodium sp.	lambs quarter	leaves, seeds	spring-summer	E,M
Amaranths	Amaranth	leaves, seeds	spring-summer	E,M
Portulaca oleracea	purslane	seeds	late summer	E,M
Stanleya sp.	desert plume	leaves	May-September	O
Descuriana sp.	tansy mustard	leaves	spring-summer	E,M,O
Cleome serrulata	beeweed	leaves	spring	E,O
Ribes sp.	current, goose berry	berries	March-June	E,M
Amelanchier sp.	service berry	berry	April-June	E,M
Rosa sp. unk	rose	fruit		E,M,O
Astragalus ceramicus imperfectus	milkweed	root	spring	M
Rhus trilobata	squawbush	seeds, berries		E,M,O
Vitis arizonica	grape	berry	fall	E,M,O
Mentselia sp.	sitckleaf	seeds	spring-summer-fall	E,M,O
Echinocereus sp.	hedgehog	fruit, flesh	spring	E,M
Mammilaria sp.	pincushion	flesh		E
Opuntia sp.	prickly pear, cholla	fruit, flesh		
Cymopterus sp.	wild celery	leaves, root		E,M
Ipomoea sp.	morning glory	root		E,M
Monarda menthaefolia	beebalm	leaves		E,M
Chamaesaracha coronopus	goosefoot	berries	summer	E,M
Physalis fendleri	ground cherry	berries	summer	E,M
Solanum jamesii	wild potato	tuber	July-September	E
Sambucus sp.	elderberry	berries	June-July	E
Helianthus annus	sunflower	seeds	March-October	
Pectis angustifolica	marigold	greens	August-September	

E = edible, M = medicinal, O = other (Compiled from Plog 1981; USDI, BLM 1982)

Table 2.3: Plants Recorded in the Largo Creek Area with Known Ethnobotanical Uses

Name	Common Name	Utilization		
		Edible	Medicinal	Other
Acer negundo	box elder	X	X	
Agave parryi	agave	X		X
Aregomone platyceras	prickly poppy		X	X
Atriplex canescens	fourwing saltbush	X		X
Avena fatua	wild oats			X
Artemizia filiofolia	sand sage	X	X	
Chenopodium glaucum	goosefoot	X		
Clematis sp.		X	X	
Circium neomexicana	thistle	X	X	X
Crysothamus sp.	rabbitbrush		X	X
Cryptantha fendleri		X		
Fallugia paradoxa	Apache plume		X	X
Foresteriera neomexicana	wild olive	X		
Frageria sp.	wild strawberry	X		
Erodium cicutarium	storksbill		X	
Juglans major	Arizona walnut	X		X
Juniperus deppeana	alligator juniper	X	X	X
Juniperus monosperma	one-seed juniper	X	X	X
Juniperus scopulorum	Rocky Mtn. juniper	X	X	X
Lesquerella sp.	bladder pod	X		X
Lycium palladum	wolfberry	X		X
Mentzelia pumila	stickleaf or blazing star		X	X
Opuntia sp.	prickly pear	X		
Pedicularis sp.	lousewort	X		
Penstemon palmerii	beardstongue	X		
Pinus edulis	piñon	X	X	X
Pinus cembroides	piñon	X	X	X
Pinus ponderosa	yellow pine	X	X	X
Polanasia sp.	clammy weed	X	X	
Populus angustifolia	narrowleaf cottonwood	X	X	X
Potentilla (prob. hippiana)	cinquefoil		X	
Quercus gambeli	gambel oak	X	X	X
Quercus grisea	gray oak	X	X	X
Rhus trilobata	squaw bush	X	X	X
Rorippa nasturtium-aquaticum	watercress (naturalized from Europe)	X	X	
Rorippa sp. (yellow flowers)	watercress	X	X	
Salix sp.	willow		X	X
Salsola kali	tumbleweed (naturalized from Europe)	X		
Solanum eleagnifolium	silver horsenettle	X	X	X
Sphaeralcea sp.	mallow	X	X	
Trifolium sp.	clover	X		X
Typha sp.	cattail	X		X
Yucca bacata	Spanish bayonet	X		X
Vitis arionica	canyon grape	X		X

(Compiled from Tierney 1973)

Table 2.4: Nutritional Values of Some Commonly Used Plants in the SACA

Plant	Calories	Protein (grams)	Carbohydrate (grams)	Calcium (milligram)	Iron (milligram)
Allium	38	1.5	8.7	27	0.5
Amaranth (seed)		14.6			
Amaranth (raw)	36	3.5	6.5	2.7	3.-
Chenopodium	43	4.2	7.3	3.1	1.2
Descurainia	31	3.0	5.6	1.8	3.0
Fragraria	37	0.7	8.4	21.0	1.0
Helianthus					
seed	560	24.0	19.9	120.0	7.1
flour	339	45.2	37.7	348.0	13.2
Juglans	628	20.5	14.8	-	6.0
Opuntia	42	0.5	10.9	20.0	0.3
Phaseolus	53	1.9	11.2	9.0	1.0
Piñon	635	13.0	20.5	12.0	5.2
Quercus		10.4			
Sambucus	72	2.6	16.4	38.0	1.6
Solanum	76	2.1	17.1	7.0	0.6
Portulaca	21	1.7	3.9	103.0	3.5
Ribes	50	1.4	12.1	32.0	1.0
Rubus	73	1.5	13.6	22.0	0.9
Rumex	28	2.1	5.6	66.0	1.6
Vitis	69	1.3	15.7	16.0	0.4
Yucca	403	1.2	93.0	0.2	
Zea *	348	8.9	72.2	22.0	2.1
Phaseolus *	340	22.3	61.3	144.0	7.8
Cucurbita *					
Summer	19	1.1	4.2	28.0	0.4
Winter	50	1.4	1.4	22.0	0.6

*Domesticated/agricultural plants (adapted from Plog 1981)

Table 2.5. Meat Yield of Selected Food Animals

Name	Weight (pounds)	Yield (%)
Elk	600	50
Mule Deer	175	50
Bear	300	70
Jackrabbit	4.5	70
Cottontail	2.8	70
Porcupine	10.2	50
Woodrat	.75	50
Deer Mouse	.15	50

(adapted from Plog 1981)

Chapter 3

Cultural-Historical Setting

To provide a framework for the analysis of survey results, the following summary of the prehistoric and historic cultural periods is presented. This summary is based on both our own work and a considerable body of literature by previous researchers, as discussed in Chapter 4.

Prehistoric Era

The prehistoric era is that temporal span prior to the arrival of the Europeans to the American Southwest. There are numerous schemes employed for subdividing the prehistoric era, and the one used here (Table 3.1) has been used many times before (Berman 1979; Camilli et al. 1988; Hogan et al. 1985; McGregor 1974). This scheme divides the era into three general periods which reflect rather broad temporal divisions and diverse lifeways based on subsistence activities. Within each of these divisions are sub-divisions based, for the most part, on distinctive artifacts or other aspects of the material culture.

In general, the sequence of subsistence strategies exhibit a change from a mobile hunting economy to a sedentary agricultural system (Hogan et al. 1985:7). The beginning and ending dates of each period are approximations, but are generally contemporaneous with similar named periods in other areas of the Southwest. The major periods are PaleoIndian, Archaic, and Puebloan each with several sub-divisions.

PaleoIndian Period (9500-6000 B.C.)

The PaleoIndian period is characterized as a hunting economy based on the procurement of late Pleistocene faunal species such as mammoth, camel, horse, tapir, and bison (Chapman 1980) which are now extinct. The later PaleoIndian manifestations are associated with bison, antelope, deer, and smaller mammals (Judge n.d.). PaleoIndian period remains are found in the southwest portion of New Mexico (Berman 1979:8; McGregor 1974:10-12), the Rio Grande Valley (Berman 1979; Judge 1973; Marshall and Walt 1984), the Plains of San Augustine (Beckett 1980; Berman 1979), the Quemado area (Hannaford 1985; Honea 1969), and the SACA (Eck 1982; Hogan et al. 1985).

Chapman (1980:11-12) gives the following summation of general PaleoIndian adaptation relevant for the SACA:

"Archaeological remains dating between ca. 9000 and 6000-5000 B.C. indicate several shifts in adaptive behavior by human populations throughout the greater Southwest and the Great Basin. These seem to have been conditioned in great part by changes in the kind and distribution of faunal populations which occurred during the pre-Boreal or near the beginning of the Anathermal period. Evidence of relatively broad-spectrum procurement of a wide variety of essentially modern faunal and flora species has been dated to as early as 8000 B.C. . . ."

Many of the recognized PaleoIndian complexes are represented in the general area of the coal lease (Berman 1979). The most common evidence consists of isolated projectile points, projectile points with sparse lithic materials, and projectile points with lithic materials suspected of being later in time (see Hogan et

Table 3.1: Prehistoric Cultural-Historical Continuum in the San Augustine Coal Area

Culture	Prehistoric Era Phase/Period/Division Standard	SACA	Mogollon		Dates
			Abandoned		
Native-American	Pueblo V				AD 1600
Puebloan		Abandoned	AD 1400		
Village Dwelling	Pueblo IV	AD 1350			
					AD 1300
			Mogollon 5		
	Pueblo III	Pueblo III-IV	Mogollon 4		AD 1100
	Pueblo II	Pueblo II	Mogollon 3		AD 900
	Pueblo I	Pueblo I			AD 700
	Basketmaker III	Basketmaker III	Mogollon 2		AD 500
		Uncertain			
Archaic	AD 400				
Hunting-gathering	**Oshara Culture**		Mogollon 1		- 0 -
	En Medio		**Cochise Culture**	**Other Lithic**	
		En Medio/San Pedro		**Complexes**	200 B.C.
	800 B.C.		San Pedro		
	Armijo	Augustin		Sand Mountain	
	1800 B.C.	Armijo		Augustin	500 B.C.
	San Jose		Chiricahua		
		San Jose	Chiricahua		
	3500 B.C.				3500 B.C.
	Bajada	Bajada			
			Sulphur Springs		Pinto-Gypsum
	4800 B.C.	Jay	Sulphur Springs	Concho	4800 B.C.
	Jay		Concho		
	5500 B.C.			Belen	5500 B.C.
	Cody		Cody	Plainview/	
PaleoIndian	Belen		Folsom	Midland	7500 B.C.
Big game hunting	Folsom		Clovis		
	Clovis				
	Sandia			Sandia	10,000 B.C.

al. 1985:7). These complexes are recognized by their distinctive bifacially worked, finely flaked, lanceolate projectile points (Berman 1979:8). The earlier points are usually fluted and the later ones unfluted. Diagnostic projectile points of the Clovis, Folsom, Plainview, Midland, and Cody complexes were reported in or near the study area. Following are brief descriptions of the PaleoIndian complexes found in or near the study area.

Clovis Complex

The Clovis complex or culture is the earliest documented PaleoIndian assemblage found in and near the coal area. Earlier complexes may exist and be present, but have not been identified. Clovis materials were dated to between 9500 and 9000 B.C. (Berman 1979; Haury et al. 1959; Irwin-Williams and Haynes 1970) elsewhere in the Southwest and should be synchronous in the study area. The Clovis projectile point is lanceolate in shape, bifacially flaked, has parallel or slightly convex sides, and has a concave base (Wormington 1957). The most distinctive attribute is its flute which may extend from the base halfway to the tip or often up the full length of the artifact.

Direct percussion flaking was employed in the basic shaping, while pressure flaking may have been used to thin the edges. The flute was probably produced by indirect percussion (Honea 1976). Other components of the lithic assemblage include side scrapers, knives, and engravers (Bussey and Beckett n.d.). Several Clovis points viewed by the authors were reported collected from lithic scatters in the study area.

The Clovis assemblages are often associated with the remains of several species of extinct Pleistocene fauna such as mammoth, bison, camel, horse, wolf, tapir, sloth, deer, antelope, as well as jack rabbit, and peccary. However, the Clovis materials discovered thus far in the survey area are surface artifacts, and not in direct association with faunal remains.

Folsom Complex

This complex has been dated to approximately 8800 to 8300 B.C. (Irwin-Williams and Haynes 1970). Folsom points are lanceolate and have concave bases bordered by ear-like projections (Berman 1979:12). Generally, these points are fluted on both sides, although fluting on one side and unfluted versions are known. Fine facial and marginal retouch by pressure flaking is present on both faces. The basal end is often ground (Berman 1979). Other artifacts of the Folsom assemblages include end scrapers, thumbnail scrapers, turtleback scrapers, and spokeshave scrapers (Bussey and Beckett n.d.). Folsom projectile points were reported from the edges of playas a few miles to the northeast of the coal area by local collectors.

Cody Complex

The Cody complex is placed temporally between 7000 and 6000 B.C. (Berman 1979:14). It is the other major PaleoIndian manifestation known from local collectors' surface finds in and near the coal area. The Cody complex is characterized by four diagnostic artifacts — the two types of Scottsbluff points, the Eden point, and the Cody knife. The first type of Scottsbluff point is triangular to lanceolate in shape with parallel lateral edges and a shouldered basal end. The flaking is usually the parallel transverse type, but some points do exhibit irregular flaking and/or frequent retouch. The second type of Scottsbluff point is very similar but is more triangular with distinctly defined shoulders. The Eden point flaking techniques resemble the Scottsbluff points, but the point is narrower and longer with pronounced shoulders. Cody knives are characterized by a transverse blade and very distinctive shoulders (Berman 1979:15).

Other PaleoIndian Complexes

Other PaleoIndian complexes such as the Midland, Allen, Belen, Plainview, Hell Gap, Concho, Agate Basin, Ventana, Amargosa, and even Sandia may be present within the coal study area. However, many of these complexes may be identified only by their distinctive projectile points as found in local collections, and not by *in situ* artifacts. Other artifacts of the PaleoIndian tool assemblages have not been adequately defined or even identified for positive site identification.

Archaic Period (6000 B.C.-A.D. 400)

The Archaic is a general lumping together of many cultural manifestations which appear to post date the PaleoIndian period and predate

the Pueblo period (Noyes 1986:12). The general characterization of the Archaic is that it is an adaptation to the environment focused on a broad-based hunting and gathering economy. Also during the Archaic, a transition from late PaleoIndian lanceolate spear points to projectile points used with the atlatl (throwing stick) occurred.

The gathering aspect is identified by increased utilization and refinement of manos, metates, mortars, pestles and other vegetal product artifacts. Hogan et al. (1985:7) summarizes this period as one in which ". . . hunting continues to dominate the subsistence system during the early Archaic period. By the middle Archaic, however, plant resources had become increasingly important, and by the late Archaic some cultigens may have been incorporated into the subsistence base."

In the SACA, two major cultural traditions of the Archaic are observable from artifact remains. One is the Cochise culture which is the forerunner of the Mogollon culture. The other is the Oshara which is ancestral to the Anasazi culture (Berman 1979:17). The geographic boundaries are not distinctive for either culture, but, very generally, the Cochise occurs south of U.S. Highway I-40 with the Oshara to the north. In the Quemado area, the elements of each can be found separately or intermixed in a wide variety of environmental zones.

The two cultural traditions are distinguished from each other primarily on the basis of various styles of projectile points (Berman 1979; Marshall and Walt 1984; Hannaford 1985; Hogan et al. 1985). Sites containing projectile points diagnostic of most time periods in both cultural traditions are known from the study area.

Cochise Tradition

The Cochise tradition or culture is often seen as an adaptation first to the desert grasslands in southeastern Arizona and later to the mountainous areas of east-central Arizona and west-central New Mexico (Hogan et al. 1985; Sayles 1983; Sayles and Antevs 1941). Berman (1979:17) defines the Cochise culture in three stages: the Sulphur Springs (7500 to 3500 B.C.), the Chiricahua (3500 to 1500 B.C.), and the San Pedro (1500 B.C. to about 300 or 200 B.C.).

Others (Hogan et al. 1985; Irwin-Williams 1973; Sayles 1983) redefined this chronology on the basis of recently dated radiocarbon specimens. However, all of these specimens and dates are from areas far distant from the coal area, and this paper uses the aforementioned generalized chronology as given by Berman (1979:17).

The Cochise cultural tradition is attributed to highly mobile hunters and gatherers who used a wide range of wild resources on a seasonal cycle. In general, it is viewed as a regional manifestation of the overall human adaptation to the semi-arid desert of the American Southwest. Horticultural experiments may begin as early as 3200 B.C. as at Bat Cave (Dick 1965), a few miles east of the study area.

Oshara Culture

The Archaic adaptation to the semi-arid environment of northern New Mexico was most recently called the Oshara tradition or culture (Beckett 1980; Berman 1979; Hogan et al. 1985; Irwin-Williams 1973). The Oshara in the study area is identified by five cultural stages, again distinguished mainly by projectile point styles (Hogan et al. 1985).

The earliest is the Jay (5500 to 4800 B.C.), the Bajada (4800 to 3300 B.C.), the San Jose (3300 to 1800 B.C.), the Armijo (1800 to 800 B.C.), and the En Medio (800 B.C. to A.D. 100). As with the Cochise temporal sequence, the Oshara chronology is best viewed as a regional sequence until excavated materials from the study area are dated.

The Oshara people used several different micro-habitats (Irwin-Williams 1973) as part of their adaptation to the semi-arid environment. Their economic base (Beckett 1980:202) is "primarily gathering with some hunting. Agriculture begins around 2,000 B.C.

Other Archaic Cultures

Also found in the study area and to the east on the San Augustin Plains (Hurt and McKnight 1949) are projectile points of the Pinto-Gypsum Complex. The age of these remains is

controversial, but they probably belong to the early Archaic, predating 5000 B.C. Other descriptions of the Archaic sub-periods are found in Beckett (1980), Berman (1979), Hogan et al. (1985), and Irwin-Williams (1973).

Pueblo Period (ca. A.D. 400-1350)

In the southwestern United States, archeologists have defined four major patterns of cultural lifeways or traditions. The four traditions are the Hohokam of southern Arizona, the Patayan of the lower Colorado River area, the Anasazi, and the Mogollon. These four traditions are considered ancestral to the present indigenous cultures (Cordell 1984:16). Two of these traditions are present within the study area.

The Anasazi tradition, as defined by most southwestern archeologists, is characterized by remains found within the four corners area of the northern portion of the southwest. The villages during the earliest period of this tradition were of the rancheria pattern which consisted of scattered structural units, mostly pithouses. Later, the Anasazi became the first to display a settlement pattern of compact villages with contiguous rectangular rooms arranged around a plaza.

Anasazi ceramics were constructed by coiling, finished by scraping or polishing, and generally fired gray or white in color (Cordell 1984:17). Anasazi painted ceramics during most of the prehistoric period were most often decorated with black mineral, vegetal or mineral-vegetal derived pigments on a white vessel. Later period Anasazi ceramics incorporated polychromatic designs and glaze mineral paints. The Anasazi tradition is generally accepted as the major ancestral lineage of the modern pubelos.

The Mogollon tradition has been identified throughout an extensive area which includes southern New Mexico, southeastern Arizona, and the adjacent portion of Texas, Sonora, and Chihuahua. The predominant settlement type was the ranchera pattern of scattered pithouses. Ceramics were coiled and scraped and vessels fired to a brown or red-brown color. Early Mogollon ceramics, when decorated, were painted in red, or rarely black, pigments over the brown or red-brown vessel. Brownware bowls were often intentionally smudged and highly polished on the interior surface.

After about A.D. 1000, the northern portion of the Mogollon area began to adopt a settlement pattern of villages with contiguous rectangular rooms massed around plazas. At this time, some ceramics were decorated in black paint on white slips, although brownwares continued to be made. The new settlement pattern and ceramics are most often interpreted as being influenced by the Anasazi tradition. Much of the Mogollon area was abandoned in prehistoric times, although many archeologists suggest that descendants of the Mogollon can be found in the modern western pueblos (Cordell 1984:17).

The term Puebloan is used here to denote the village dwelling agriculturalists of the SACA. The cultural lifeways of these peoples seem to embrace both the Anasazi tradition of the Chaco-Cibola region and the Mogollon tradition of the Alpine branch (Danson 1957:8).

In the Quemado and the SACA area, these groups seem most closely and predominately affiliated with the Anasazi tradition (Hogan et al. 1985:10). However, it is believed that a few groups, definitely in the minority, were affiliated with the Mogollon tradition rather than with the Anasazi tradition. Hogan et al. (1985:10) stated, "This would imply that the local culture was a frontier manifestation resulting from constant interaction between two major Southwestern groups."

The cultural sequence of the Pueblo Period (see Table 3.1) is seen as beginning in Basketmaker III (ca. A.D. 400 to 500-700), continuing through Pueblo I (A.D. 700-900), Pueblo II (A.D. 900-1100), Pueblo III (A.D. 1100-1300), and ending in early Pueblo IV (A.D. 1300-1600) times.

The initial village settlement of the coal area begins sometime in Basketmaker III with the population clustered in a few villages in the general area (Berman 1979; Bullard 1962; Danson 1957; Hogan et al. 1985). No early Mogollon villages are known from the coal study area. The Museum of New Mexico ex-

cavated one Pine Lawn Phase village in the upper Largo Creek drainage about 20 miles south of the study area. This village contained six pithouses and only early Mogollon brownwares (Kayser personal observation). The population in the general area of the survey was probably small and of the Anasazi tradition. Settlements seem to be in the major drainages near high relief physiographic features.

The population apparently increased in Pueblo I but still remained relatively small compared to later times. Again, the villages seem to be predominately of the Anasazi tradition. Mogollon ceramics are present, but no single village appears to be of the Mogollon cultural tradition.

Some villages and other Pueblo I sites are found on high ridges away from the major drainages; however, most are located on terraces immediately above the drainages. Bluhm (1960) suggested that villages were established close to drainages because of an increased dependence on agriculture.

The number of sites greatly increases during Pueblo II times (Danson 1957; Bullard 1962; Berman 1979) in the coal study area, and in the general Quemado region. Bullard (1962:7) noted that Pueblo II sites were found almost "everywhere along large and medium sized valleys." Pueblo II sites are noted on ridges, slopes, knolls, along drainages, in high elevations, and in lowlands. Most of the villages are of the Anasazi cultural tradition. A few villages seem to have some Mogollon connection beyond simple ceramic exchange.

In Pueblo III the overall number of villages decreases, but the villages were larger (Danson 1957; Berman 1979; Hogan et al. 1985). Sites are located on knolls, ridges overlooking drainages, and occasionally on the valley bottoms. The population seems to move toward the highlands along the Continental Divide and Santa Rita Mesa uplands, respectively east, north, and west of the main valley bottomlands in the survey area. The population is predominately Anasazi; however, a few villages appear to definitely be part of the Mogollon tradition.

Several Pueblo III villages are arranged in U-shaped roomblocks of 20 to 30 or more rooms with a courtyard or attached kiva. With these villages are multiple outlaying single- and double-room structures suggesting a "mother pueblo" with field houses.

During late Pueblo III-early Pueblo IV times, most of the Pueblo III villages on the low relief features in the study area are abandoned. Very large villages exist on high relief features such as the nearby Mariana Mesa (McGimsey 1980) and small mesas along the Continental Divide. However, some late sites still occur in the valley bottoms near these high relief physiographic features.

The population of the study area appears to be predominately of the Anasazi cultural tradition with some Mogollon traits observable. No distinctively Mogollon villages are present in the closing occupations of the area. Berman (1979:61-62) encapsulates the demographic history of the area as, ". . . sometime during the 12th and 13th centuries approximately 70 percent of the Pueblo II occupations in the Mariana Mesa area were abandoned. . . . data indicate that with the abandonment of most of the sites . . . consolidation with pre-existing communities took place On Mariana Mesa . . . almost 75 percent of the Pueblo III sites had earlier occupations"

The pueblo village occupation of the SACA apparently ends by early Pueblo IV, about A.D. 1350 (Berman 1979:61; Hogan et al 1985:11). Some of the population may have migrated northward to the Zuni-El Morro region as suggested by Bullard (1962:9) or perhaps to other still occupied Pueblo IV villages to the southwest and west.

The SACA has been sporadically occupied by groups related to the modern Zuni and Acoma peoples after the general abandonment of the villages during early Pueblo IV times. Locales near the survey area, such as Zuni Salt Lake, were visited for the gathering of salt and homage at religious shrines. Various trails from Zuni and Acoma pueblos are known to cross or pass near the coal study area (Kelley 1988). Other groups, such as the Navajo and Apaches, may have utilized the general area

for hunting, salt gathering, and other purpose during the prehistoric era.

Historic Era

The historic era (Table 3.2) is that span of time from the first European contact in the American southwest to the present day. Several authors have divided this era into various temporal divisions. The scheme used here is one which reflects the Native American and the Hispanic-Anglo utilization and occupation of the SACA. The major reference works are Kelley (1988) and Wozniak (1985).

Kelley sees the beginning of the historic period as occurring with the arrival of the Moor, Estevan, in A.D. 1539 at the Zuni pueblos, some 50 miles to the northwest of the SACA. There are six temporal divisions within this scheme (see Table 3.2). Kelley documents the utilization of the area by both Native American and Euro-American groups during the historic era. Consideration is given to the fact that Native Americans occupied, at least temporarily, and used the SACA throughout the historic era. There are active Zuni shrines at the Zuni Salt Lake and other locales such as Eagle Peak to the south (Ladd 1983).

Anglo-Hispanic use of the area began relatively late in the historic continuum and has focused on the use of the environment for pastoral pursuits. Recently, the utilization of the SACA is undergoing a change from stock raising and related activities to mineral exploitation.

Table 3.2: Historic Cultural-Historical Continuum in the San Augustine Coal Area

Culture	Standard	Historic Era Phase/Period/Division Kelley (1984)	Wozniak (1985)	Dates
				1980
Anglo-Hispanic		Recent	Recent	
	Statehood	1942	The End of the Open Range	1950
		The Great Depression	1930	
		War I and Its Effects		
		1916		
	1912	The First Resident Big Cattle Co.		
		1906	The Era of Ranching and	
	Territorial Period		Open Range	1900
		Early Non-Indian Settlement	1870	
		1868		
	1846	Early American Period		1850
	Mexican Republic			
	1821	Spanish and Mexican Colonial		1800
		Period		
	Colonial Spanish	(Native Americans in SACA)		1750
	Period		The Early Period	
				1700
Native American		1692		
	Pueblo Revolt			
	1680			
	Early Spanish			1650
	Colonial Period			
	1598			1600
	Initial Contact and			
	Exploration Period			1550
	1539	1539	1540	
		Prehistoric		
				1500

Chapter 4

Previous Archeological Studies

Professional Studies

Archeological investigations of areas near the SACA began in the late 19th Century (Fewkes 1891) and early 20th Century (Hough 1907; Spier 1918 and 1919). After these early studies, few, if any, investigations were conducted in or near the SACA until the research initiated by the Peabody Museum of Harvard University in the late 1940s and early 1950s.

Since then, many individuals and institutions have conducted numerous studies. These professional investigations are well-documented by several recent authors (Berman 1979; Camilli et al. 1988; Hogan et al. 1985). This report does not duplicate these efforts except where certain previous studies illustrate the work reported on in this narrative. Table 4.1 lists the principal archeological studies in the SACA.

Nonprofessional Collections

Nonprofessional collections were conducted in and near the SACA. Numerous individuals used the study area as a source for acquisition of various artifacts. The objective of such collecting is generally to obtain dramatic or unusual individual artifacts. Collections in the Quemado area were viewed by the authors and others. These collections contain hundreds of projectile points, numerous axes, mauls, manos, metates, pottery vessels and sherds, beads, carved shells, bone awls, and other artifacts. The data loss represented by such collections is significant and has decreased the understanding of the prehistory of the area.

These collections are usually conducted without specific provenience data being retained; however, the general collection locale can sometimes be elicted from the collector. One such collection contained Paleoindian, Archaic, Pueblo, and Historic projectile points; 22 whole ceramic vessels; hundreds of manos; and numerous other artifacts. All came from the SACA. Some future attempt should be made to record what locational data are known about artifacts in the private collections.

The importance of these collections to the analysis of cultural material assemblages in the Quemado region cannot be over-emphasized. Functional analyses of sites often test propositions based on presence, absence, or percentages of formal tools, groundstone, and projectile points. Collections in the SACA region were so thorough and extensive that it is probable that both internal site assemblages and temporally diagnostic site populations have been skewed.

For example, many individual collections contain more Folsom points and fragments than have been recorded in the region by all of the formal, professional studies listed above, leading to a widely held conclusion that the region was only lightly utilized by Paleoindian groups. Similarly, site function analyses which use groundstone as a factor must take into account residential stone walls constructed entirely with metates.

Table 4.1: Archeological Studies In or Near the San Augustine Coal Area

Date	Investigator	Organization	Study Area	Remarks	Reference
1891	Fewkes	Smithsonian	Zuni Area	Reconnaissance	Fewkes 1891
1903	Hough	Smithsonian	Gallo Mts., south of Quemado	Reconnaissance, test excavations	Hough 1907
1917-1918	Spier	American Museum of Natural History	White Mts., west of Quemado	Reconnaissance	Spier 1918, 1919
1947-1949	Danson, Brew, Smith, et al.	Peabody Museum	Quemado, SACA, Pie Town, etc.	Survey	Brew & Danson 1948, Danson 1950, 1957
1949	Danson & Malde	Peabody Museum	Springerville, AZ	Excavation	Danson & Malde 1950
1940	McGimsey	Peabody Museum	Mariana Mesa	Excavation	McGimsey 1951, 1980
1951	Smith	Peabody Museum	Largo Canyon	Excavation	Smith 1950,1973
1953-1954	Brew	Peabody Museum	Cerro Colorado	Excavation	Bullard 1962
1961	Winkler & Davis	National Park Service	North of Quemado	Reconnaissance	Winkler & Davis 1961
1963	Honea & Benham	Museum of New Mexico (MNM)	West of Quemado	Survey	Honea & Benham 1963, Honea-'69,Alexander-'66
1963	Hammack	MNM	Salt Lake Area	Survey	Hammack 1964
1971	Barnett	Albq. Arch.Society	Hubbell Ranch	Excavation	Barnett 1974
1971	Kayser	MNM	Agua Fria and Largo Creeks	Survey	Kayser 1972c
1972	Kayser	MNM	Armijo Springs	Excavation	Kayser 1972b
1972	Wilson	MNM	West of Quemado	Survey	Wilson 1972
1973	Kayser	MNM	South of Quemado Largo Creek	Survey	Kayser 1972c
1973	Kayser	MNM	Largo Creek	Excavation	Kayser 1973
1975	Wiseman	MNM	Largo Creek	Survey	MNM files
1976	Kayser	MNM	Largo Creek	Survey	Kayser 1976
1975	Kayser	MNM	Gallita Springs	Excavation	Kayser et al. 1975
1976	Marshall	BLM	Quemado Area	Literature review	Marshall 1976
1976	Richards	BLM	Williams Ranch, Largo Creek	Survey	Richards 1976
1976	Wilson	Tuscon Gas & Electric	West of Quemado	Survey	Wilson 1976
1977	Kayser & Dart	MNM	Largo Creek	Survey and Excavation	Kayser & Dart 1977
1978	Wilson	TG&E	Quemado	Survey	Wilson 1978
1979	Kight	BLM	Quemado	Survey	BLM files
1979	Whalen	BLM	Quemado, SACA	Survey	Whalen 1979
1981	Kight	BLM	Quemado area	Survey	BLM files
1981	Leehan	Zuni Arch. Program	Quemado area	Survey	Leehan 1981
1981	Nightengale & Mallouf	Western NM Telephone	Quemado area	Survey	Nightengale et al. 1981-1982
1982	Scheick	School of Amer. Res.	Quemado area	Survey	Scheick 1982
1982	Rowland	Office of Contract Archeology (OCA), UNM	SACA	Survey	Rowland 1982
1982	Eck	OCA, UNM	SACA	Survey	Eck 1982
1983	Collins-Robertson	Zuni Arch. Program	SACA	Survey	Collins&Robertson'83
1983	Moore	OCA, UNM	SACA	Survey	Moore et al. 1983
1983	Elyea	OCA, UNM	SACA	Survey	Elyea 1983
1983	Hogan	OCA, UNM	SACA	Survey	Hogan 1983a, 1983b
1983	Sallani	BLM	SACA	Survey	Sallani 1983
1984	Fowler	OCA, UNM	SACA	Survey	Fowler 1984a, 1984b
1984	Hunter-Anderson	OCA, UNM	SACA	Survey	BLM files
1984	Koczan	NMSHD	Red Hill area	Survey	Koczan 1984
1984	Winter	OCA, UNM	SACA	Survey	Winter 1984a, b, c, d
1984	Mills	OCA, UNM	SACA	Survey	Mills 1984
1984	Camilli	BLM	SACA		Camilli et al. 1988
1985	Carroll	BLM	BartonRnch/Quem.	Survey	Carroll 1985
1985	Carroll	BLM	LA Draw	Survey	Carroll 1985
1985	Dechambre	Northland	Quemado area	Survey	BLM files
1985	Hannaford	NMSHD and MNM	Quemado area	Excavation	Hannaford 1985
1985	Fearey	Northland	Quemado area	Seismic survey	BLM files
1985	Hogan et al.	OCA, BLM	SACA	Survey	Hogan et al. 1985
1986	Fearey	Northland	Omega area	Seismic survey	BLM files
1986	Gossett	Corn Construction and Rio Abajo Arch. Serv.	Quemado area	Survey	Gossett 1986
1986	Koczan	NMSHD	Quemado area	Survey	BLM files
1986	Nelson	NMSHD	Quemado area	Survey	Nelson 1986

Chapter 5

The Sampling Strategy

Camilli et al. (1988: Chapter 3) provide a discussion of sampling as a method of archeological investigation and as applied directly in this project. This is recounted here in part, with some introductory comments on the subject.

Nearly everyone is familiar with the concept of "scientific sampling" as employed in political or opinion polls in the day-to-day world: a known population (e.g. a counted number of voters) can be "scientifically" polled by contacting a specific number which is determined by a simple statistical formula to provide a specified degree of certainty that the part represents the whole.

In a political election, the only means of ensuring 100 percent certainty is to hold the election – but, if 98 percent certainty, or especially a 95 percent or less certainty, is adequate for the purposes at hand (e.g. an evening newscast), then a remarkably small percentage of the total number of registered voters can be contacted to produce a very high level of confidence that the total population was represented. However, as the variables are increased, such as by subpopulations within the overall population, the complexity vastly increases. In projecting results of presidential elections, for example, an astounding number or variables must be controlled through polls of subsets of the whole. This is now done so precisely that legislation was proposed to prevent release of the outcome of elections before voting leaves the eastern time zones.

Two keys to the precision of this type of "scientific sampling" are a **known population** (voter registration lists adjusted by further sampling to predict voter turnout in various subpopulations, and so forth), and **randomness** within the selected subsets.

In archeology, statistical sampling is applied on so many different levels, often within the same project, that it is sometimes difficult to keep track of what is being sampled.

Whenever it is the **archeology** that is being sampled – the physical evidence of past human behavior – then the total population is **unknown**. This holds true whether the target population is archeological "sites" on the countryside or archeological artifacts in three-dimensional space within an archeological site. In either case, in an archeological site being sampled with test pits, or in a bounded region being sampled for surface remains – such as the SACA being sampled here – the population being sampled is not the "archeological population," but the bounded area of space.

As used here, the "archeological population" of the SACA would be **all** artifacts, scatters, sites, soil stains, and so forth, that were left behind on the landscape within the SACA boundaries by past human activity. Since the total population is unknown, the sampling problem shifts from a statistically valid sample of the "archeology," to the development of a strategy of the sampling of space, from which the archeologist may infer propositions of the relationship of the observed "archeology" within the sampled space to the archeological population of the whole. Thus, although sampling can answer many properly framed questions, this type of sampling is seldom a self-contained approach to research, but can

be a superb intermediate step in the inferential/deductive process of framing testable propositions for the refinement of models as the sample of the archeological population grows.

The objective of most archeological sample surveys of space is to attain as closely as possible a representation of the archeological population of the entire bounded area. The design of a valid sample of a bounded landscape can be difficult to achieve. Some of the problems associated with the task are discussed below. The leap from a sample of landscape, no matter how craftily designed, to a quantifiable relationship with the archeological population is neither possible, at any meaningful level, nor anything to worry over, provided that Class II sample inventories are employed for the purposes and in view of the limitations stated earlier (Chapter 1). As Chenhall noted over 10 years ago (in Mueller 1975:4), "It would be great to be able to state, in mathematical terms, the probability that archaeological samples represent defined archaeological populations, but this is seldom possible, and the reason this is so is because homogeneity and randomness (the basic premises of statisticians) are never self-evident and are seldom demonstrable in archeological investigations."

Although the logical links between sampling of countryside and the archeological population are complex enough, this is not the ultimate goal of anthropological archeology and it involves no anthropological or archeological theory. Even if this leap from landscape to archeological population were accomplished, the archeological record in total still remains an undefined subpopulation representing only certain aspects of human behavior within past cultural systems.

If the former is a "leap," then the progression to the use of archeological remains for the elucidation of past cultural behavior, variability, and change, is analogous to intergalactic travel. Archeological theory is the link between the remains on the ground and anthropological explanation. It is toward the development of theory (rather than following from it) that most archeological studies today are directed.

Since it is the landscape that is being sampled (first) for the presence of evidence of past human behavior, and human behavior is generally not random, we can at least attempt to control our sample methods of the landscape to approach a reasonable representation of the archeological remains.

If landscapes were homogeneous and human behavior random, then a purely random sampling of the landscape would suffice; since neither is the case, archeologists have employed a variety of methods, mostly centering on "stratified" random sampling. This is based on the premise that humans tend to do different things in different types of places, and the problem then becomes how to define the qualities of "place" that may covary with behavior.

Some qualities of place may covary with greater regularity than others, but this depends greatly on the scale of the sample region and the level of specificity of the questions addressed. The most effective variables used in stratification of landscapes to be sampled have been, expectedly, biotic factors, ranging from rainfall and effective temperature over very large regions, to soils, vegetative communities, distance to water sources, and so forth, in smaller areas.

Under a stratified random sample, once the basis for stratification is decided upon, for example soils, the sampling strategy is further refined generally by quantifying the geographic areas of specific soil types and assigning sampling units within each type in proportion to that type's ratio to the whole.

In the case of the SACA sampling strategy, topography, or more precisely, **slope** was the parameter used to establish the statified zones in which random sampling was to occur. This brings up a rather important point: We do not know exactly how the SACA stratified sample was designed. We do know that it was refined by Camilli during the 1984 field season by the introduction of measured slope as a method of defining zones, but the original zone stratification, which resulted in the zone designations of the research design (Kight 1984), was lost somewhere in one of the breaks in progress or changes in personnel recounted earlier.

Camilli (personal communication 1984) introduced measured slope as a method of stratification after ground-truthing revealed that a number of quadrats previously selected on topographic maps did not meet the definition of the zones they were to represent.

Thus, apparently in some cases, the zone designation of individual study quadrats was changed and others of the correct type were either added or dropped to arrive at a correct proportional balance. Informal discussions with archeologists who at one time or another participated in the survey indicated that in some cases quadrats were moved by the field crews, "Because it looked like there might be more sites over there." We cannot say if this is true, but we do know (Camilli et al. 1988: Chapter 4) that quadrats within zones were frequently laid out on pre-field maps where some feature (section corner, fence, windmill, road) would provide ground control and cut down on search time in establishing the quadrat in the field.

These adjustments in quadrat locations are somewhat understandable and we are not sure we would have done things differently (our quadrats were fixed by the previous work and no further adjustments were made). This introduces some inconsistencies to the sample which, although relevant only at the most technical statistical level, should be recognized. Establishing zones, or subpopulations is a nonrandom process which is equally as justifiable in archeological investigations of landscape as they are in voter opinion polls. However, once the subpopulations are established, the sample selected within each subpopulation should be random.

The SACA sample, to some extent, the intrazone sample is nonrandom and perhaps even directly influenced by the bias (experience) of the field archeologists. The question then arises if this nonrandomness within stratified zones affects the application of the data to the goals presented in Chapter I. The answer, of course, is **no**, since the present goals were modified to take the statistically imperfect sample into account. This situation does affect, however, the statistical validity of the sampling strategy, which assumed that homogeneous quadrats (ones containing only one zone) can be used to statistically evaluate the results of the survey in comparison with quadrats made up of two or more zones. Approaches such as this would be rather sterile exercises, since combined factors such as proximity of adjoining landforms, which affect site placement, are not controlled sufficiently to warrant close statistical analysis. That is, the computer has no way of distinguishing whether a homogeneous quadrat from Zone D (less than six percent grade) is in the center of a wide wash, where human activity and important secondary factors such as alluviation can be expected, or if another homogeneous quadrat of the same zone may be tucked up against a mesa base on one border, picking up a skewed site density from the edge effect of the landforms.

For all of these reasons, it is unwise to hold the SACA data up to close statistical scrutiny for the evaluation of such questions as the refinement of slope as a precise indicator of prehistoric land use, or the leap from landscape sampling to archeological population projection. For our purposes, neither is required; the purpose at hand is to establish a reasonable basis for discussion of cultural resources in terms of coal leasing and at this level, the sample is fully valid.

In the following chapters, another level of sampling is frequently discussed: the sampling of **archeological material** when found on the ground during the field survey. This type of sampling is often discussed in two ways: (1) spatial sampling, directly analogous to the landscape sampling discussed above, and (2) cultural material sampling, which attempts to more directly address the "archeological population," in this case a "site," or some bounded archeological manifestation. In both cases, precisely the same theoretical problem exists as discussed previously — the "archeological population" remains unknown.

For the moment, we ignore "nonsite archeology" and talk in terms of sites as bounded areas of evidence of past human activity regardless of how many temporally discrete behaviors are represented. When viewing sites in the process of archeological survey, some form of sampling is **always** required and it is incumbent upon the archeologist to deter-

mine an appropriate sampling strategy. In most archeological surveys, the strategy is informal and unstated; sites are found, described, and what is assumed the most relevant cultural material (usually pot sherds, formal stone tools, and chipped stone) is noted at some level of description. At some point, regardless of the formality of the sample, the recordation must be broken-off and the countryside walked until the next archeological manifestation is encountered.

It is important that before the site sample is broken-off to resume inventory, that relevant and comparable information is retrieved. Relevance is determined by the objectives of the research and, of course, minimal professional standards. In this case, a wide variety of information was extracted at some level from each "site" (quotes around "site" throughout this report are in deference to Camilli's non-site position). The classes of data collection designed for this project by our predecessors resulted in an exceptional quality and quantity of data. However, returning to the problem of intra-site sampling, **comparability** is something that future users of this data will have to struggle with. As Camilli et al. (1988: Chapter 4) candidly describe, the sampling strategy employed on sites varied for a number of reasons. Occasionally, time constraints (Larralde, in Camilli et al. 1988) influenced the type of samples examined on large sites. At least as often, the opinion of the field archeologist responsible for the collection of data on ceramics, or lithics, or whatever, resulted in on-the-spot decisions to alter the sample size to meet immediate needs, or professional preference. While intra-site sampling strategies differ, the variability is explicit and therefore manageable, as Camilli has shown in her analysis, and as we attempt here.

More troublesome is the fact that the data recovery process for the SACA is slanted away from intra-site spatial sampling and toward sampling of the archeological statistical universe (of the two approaches to internal site sampling suggested earlier). There is nothing wrong with this; it meets the relevance requirement of application to the questions posed by Camilli and Larralde in their separate analyses, especially of lithic data, and it follows from an explicit viewpoint presented by Camilli. As a result, the data collection deals with virtually every conceivable quality of the individual artifacts except their spatial relationship to one another.

Thus, sampling will be discussed throughout this report on two levels: the spatial sampling of the SACA countryside and the sampling of cultural material within sites, which is not spatial, but an attempt to address some fraction of the archeological sub-universe. For a discussion of topographic strata definitions and selected sample descriptions for the Moderate Production Area, refer to Camilli et al. (1988: 3-3 to 3-5).

Chapter 6

Survey Methods

The 1985 San Augustine Coal Area Project (SACA '85) continued to use field techniques and procedures similar to those initiated by the 1984 project personnel.

A single field crew of four individuals (later reduced to three) walked parallel to each other across the sample units. The spacing between team members varied from 20 to 30 meters depending on the ruggedness of the topography and vegetation density. Generally, the spacing was between 20 and 25 meters.

The two more experienced crew members gave in-field instruction to the less experienced members. Training included local archeology, survey procedures, artifact identification and analyses, and data recording. Both Kayser and Alfred Hobbs had considerable experience in transect survey techniques, artifactual and site data recording, and local archeology. Curt Asher, with a background in Environmental Sciences, provided in-depth analyses of the environmental setting of each sample unit. Frank Cantelas, having considerable background in lithic analysis, recorded the lithic artifacts until he left the project due to a personal emergency. Charles Carroll acted as Project Director. David Kayser served as the Field Party Leader.

Proficiency and productivity of the SACA '85 crew increased with field training sessions and was maintained because the same personnel remained throughout the entire field phase of the project. There were times when the personnel were sorely tested by the environment, as in the first few weeks of man-eating gnats, and by interpersonal relationships, which are often stressed by close working and living conditions in remote areas. However, all survived and performed their assignments in a professional manner.

Sample units of the SACA '85 survey remained 40-acre quadrats as in the 1984 project period. These units were selected by the SACA '84 project and formed approximately four percent of the 10 percent quadrat sample initially selected for the project. Budget limitations and fluctuations, weather conditions, and personnel flux prevented the SACA '84 team from completing the project.

Data recordation procedures and forms were similar, but not identical to those used by the 1984 survey team. The major difference was that the lithic analysis form and procedure were modified in the hope of simplification and increased efficiency in the collection of data. A second difference was that during the 1985 field session, the collection of all ceramic data was performed by one individual. This resulted in the consistent application of ceramic typology to the artifacts and a uniformity in the data collection and presentation.

Common to both field sessions were quadrat unit description forms used to record various management, environmental, and archeological summaries relevant to each quadrat. Standard Laboratory of Anthropology, Museum of New Mexico, Archeological Records Management System (ARMS) forms and Isolated Artifact forms were used to record the archeological sites and isolated artifacts. Data on rock art, in addition to being recorded on the above forms, were also noted on separate BLM forms which emphasized physical and administrative protection measures.

Physical and cultural features present on sites were sketched on standard five-squares-per-inch graph paper. All sites were photographed and marked with aluminum tags wired to rebar stakes. The stakes were set flush to the ground wherever possible to reduce hazards to livestock and people. Site locations were recorded on the USGS 7.5 minute quadrangles of Techado, Cerro Prieto, Tejana Mesa, and Fence Lake SW.

Data on isolated artifacts were recorded on the aforementioned Museum of New Mexico form. The location of each isolated artifact was also plotted on the same topographic maps as used for plotting site locations.

No artifacts were collected from either site locales or from isolated occurrences. Artifact analyses of ceramics, lithics, and other materials were conducted in the field.

Most of the data collected during the 1985 survey was compatible with earlier data retrieved from the SACA. An exception was that some aspects of the simplification of the lithics recording form resulted in different sets of attributes being studied and recorded. However, portions of both sets of lithic data are compatible and meaningful observations can be drawn from the combined data. Another exception was that additional pottery types were recorded in 1985 which were not recorded during the 1984 field sessions. However, these additional types in terms of numbers amounted to only a few sherds from a sample of thousands. It is also possible that the additional types recognized in the 1985 survey were not present at sites viewed in 1984. In general, the compatibility of both sets of ceramic data is believed to be very good. Other data sets are considered high in compatibility while conceding normal variations in recording of data by different individuals.

Chapter 7

Summary of Results

Of the 43,080 acres of the Moderate Production Area, 108.6 40-acre quadrats, or 4,344 acres, were inventoried to complete the 10 percent sample for the Class II inventory. Using the definitions discussed elsewhere in this report, 215 archeological sites were recorded and are composed of 424 proveniences. The recorded data include information on 854 prehistoric features, 94 historic features, and over 1,400 structural components of all types.

In the course of recording site architecture, ceramics, lithics, and historic artifacts, as well as locational and spatial data, tens of thousands of individual items of data were recorded and entered for computer reduction and analysis. Computer services for both the earlier phase and this phase of the project were provided by William H. Doleman of Tai Rat Enterprises, which greatly enhanced the continuity of approaches by the successive principle investigators.

Table 7.1 shows the frequency of archeological site types recorded within the four topographic zones of the sample. A few sites, outside the survey quadrats which were recorded in the first phases of the study, appear in the figures according to the zones they were assigned. Most of the abbreviated site type names should be readily identifiable in the column heading. "L & C Scat(s)" represents scatters of artifacts where both lithics and ceramics were present in the absence of structures or features, which are presented in combination in other columns.

"P-H Str/Feat & Hist" indicates sites composed of prehistoric structures and/or features found with historic site components. Table 7.2 shows the calculated average (mean) density of sites per 40-acre quadrat within each zone.

The application of mean densities within zones is discussed in Chapter 9. Also addressed in Chapter 9 is the usefulness of viewing the densities of archeological remains within the study area in terms of proveniences. Tables 7.3 and 7.4 present provenience counts and average densities, respectively.

Each of the above tables provides frequency and mean values for different categories of sites and proveniences and for totals of all types. Note that the categories of sites in Tables 7.1 and 7.2 contain an indication of multiple component sites, such as, "Lithic/Ceramic Scatters and Historic," and "Prehistoric Structure/Feature and Historic." Of the 20 historic sites recorded by the sample inventory, 12 occur in the absence of evidence of earlier occupation, while eight or 40 percent, occur in association with prehistoric scatters, features, or structures.

This is one of the reasons, discussed in Chapter 9, for the utility of viewing the archeological remains in terms of proveniences for the general discussion of densities within zones. Obviously, this is only a first-level distinction between site temporal types. The number of temporally distinct proveniences would grow radically, when temporal classifications within the prehistoric period are applied. Thus, proveniences provide a somewhat better measure of the quantitative and qualitative complexity of the archeological record within the surveyed quadrats.

This data can be arranged by computer to be viewed in any number of ways and some, which we hope may be useful, are presented in Appendices 1 through 5. The first of these is a simple display of all sites and their provenience components, with environmental information, site area in square meters, and numbers of features and structures. Tables are presented which display the same classes of information for prehistoric and historic sites separately. These are followed by other tables which compare features with topographic zones, vegetation and terrain classes; architectural construction classes with structure size classes, and so forth. The last two appendices present the numbers of sherds and percentages by site and proveniences as well as separated into occupation periods. Some of these may be useful for future applications and their review may kindle ideas or future research as the process goes forward for the coal area.

Table 7.1: Site Counts for Total Survey by Topographic Zone in the 10 Percent Sample

	Historic Only Sum	L/C Scat(s) Sum	L/C Scat & Historic Sum	Ceramic Scat(s) Only Sum	Lithic Scat(s) Only Sum	Prehist. Struc.& Feat. Sum	Prehist. Struc.& Hist. Sum	Prehist. Str/Feat. & Hist. Sum	Prehist. Features Sum	Prehist. All Types Sum	Total Survey Units Max
Topographic Zone											
A	-	1	-	-	2	-	-	-	1	4	1.4
B	-	1	-	-	-	1	1	-	3	6	3.2
C	6	19	2	2	4	56	6	5	74	174	70.0
D	6	6	-	-	2	6	3	1	7	31	34.

Table 7.2: Site Densities per 40 Acres by Topographic Zone in the 10 Percent Sample

	Historic Only Mean	L/C Scat(s) Mean	L/C Scat & Historic Mean	Ceramic Scat(s) Only Mean	Lithic Scat(s) Only Mean	Prehist. Struc.& Features Mean	Prehist. Struc-tures Mean	Prehist. Str/Feat. & Hist. Mean	Prehist. Features Mean	Prehist. All Types Mean	Total Survey Units Max
Topographic Zone											
A	-	0.71	-	-	1.41	-	-	-	0.71	2.83	1.4
B	-	0.31	-	-	-	0.31	0.31	-	0.93	1.85	3.2
C	0.09	0.27	0.03	0.03	0.06	0.80	0.09	0.07	1.05	2.47	70.0
D	0.17	0.17	-	-	0.06	0.17	0.09	0.03	0.20	0.89	34.0

Table 7.3: Provenience Counts (Per 40 Acres) by Topographic Zone in the 10 Percent Sample

	Prehist. Features Sum	Prehist. Struc. Sum	Prehist. Str/Feat. Sum	Lithic Scatters Sum	Ceramic Scatters Sum	L/C Scatters Sum	Historic Only Sum	Historic Struc. Sum	All Types Sum	Total Survey Units Max
Topographic Zone										
A	7	-	-	3	-	3	-	-	13	1.4
B	5	1	1	1	-	2	-	-	10	3.2
C	151	32	110	18	3	27	7	6	354	70.0
D	15	3	12	2	-	6	1	8	47	34.0

Table 7.4: Provenience Densities per 40 Acres by Topographic Zone in the 10 Percent Sample

	Prehist. Features Mean	Prehist. Struc. Mean	Prehist. Str/Feat. Mean	Lithic Scatters Mean	Ceramic Scatters Mean	L/C Scatters Mean	Historic Only Mean	Historic Struc. Mean	All Types Mean	Total Survey Units Max
Topographic Zone										
A	4.95	-	-	2.12	-	2.12	-	-	9.19	1.4
B	1.54	0.31	0.31	0.31	-	0.62	-	-	3.09	3.2
C	2.14	0.45	1.56	0.26	0.04	0.38	0.10	0.09	5.03	70.0
D	0.43	0.09	0.34	0.06	-	0.17	0.03	0.23	1.34	34.0

Chapter 8

Ceramic Field Analysis

Previous Ceramic Studies

Ceramic studies within, near, and significant to the SACA project are those of the Upper Gila Expedition of the Peabody Museum at Harvard University (Brew and Danson 1948; Bullard 1962; Danson 1957; McGimsey 1980; Smith 1973; Washburn 1977), the Chicago Natural History Museum (Martin 1943; Martin and Rinaldo 1947, 1950a, 1950b; Martin et al. 1949, 1952, 1954, 1956, 1957, 1962; Rinaldo 1959; Rinaldo and Bluhm 1956), the University of Arizona and Arizona State Museum (Breternitz 1959, 1966; Carlson 1970; Crown 1981; Doyel and Debowski 1980; Hill 1970; Kintigh 1985; Wasley 1959;) and the Museum of Northern Arizona (Colton 1953, 1955a, 1955b; LeBlanc 1976; Zier 1976). Other studies of ceramics from nearby or associated regions were completed by the Museum of New Mexico (Kayser 1973, 1975; Peckham 1957, 1958; Peckham et al. 1956; Schroeder and Wendorf 1954) as part of various archeological highway salvage projects in west-central New Mexico.

The Albuquerque Archaeological Society reported (Barnett 1974) on ceramics recovered from excavations within SACA at Sandstone Hill Pueblo ruin. Moreover, the society photographed whole vessels from SACA which are in private collections.

More recent cultural resource management studies (Camilli et al., 1988; Eck 1982; Elyea 1983; Hogan 1983a; Hunter-Anderson 1978; Moore et al., 1983; Tainter and Gillio 1980) have produced much useful information concerning ceramic sequences or groups of associated wares and types.

Still other studies (Anyon et al., 1983; Berman 1979; Cibola White Ware Conference 1958; Colton and Hargrave 1937; Dittert 1949, 1959; Garrett 1984; LeBlanc 1982; Reed 1955; Warren 1976; LeBlanc and Whalen 1980; Windes 1981; Woodbury and Woodbury 1966) added greatly to the understanding of the cultural dynamics seen in SACA through the study of ceramics.

The Museum of New Mexico, Laboratory of Anthropology conducted archeological excavations and other data recovery efforts in 1972 at 12 locales along the right-of-way of the Thirty-Mile-Loop Road in the Quemado District of the Apache National Forest at Gallita Springs, Gallo Mountains, Catron County, New Mexico (Kayser et al. 1975). Excavations occurred at six sites and data on surface materials were recovered from six other locales. This locale is 35 miles southeast of the center of the SACA, and is located on the divide between the uppermost reaches of the San Francisco, Gila and Little Colorado Rivers. The headwaters of Largo Creek begin about one mile north of this locale. Kayser describes the ceramics from these sites as follows:

"Ceramic materials were recovered from the majority of the features excavated at the Gallita Springs sites. A total of 47,548 sherds, 89 whole or partial vessels, and five ceramic animal effigies were recovered. Of the total sherds, 41,848, or 88 percent, were culinary types; and 5,700 sherds, or 12 percent were decorated types. These ceramics included most of the known types of the north-central

Mogollon area and also Mogollon and Anasazi types from other areas. The time range of the ceramics spanned the whole spectrum of Mogollon cultural history in the Reserve-Gallo Mountain area, from the Pine Lawn Phase to the Late Tularosa Phase or from *circa* A.D. 200 to A.D. 1350. Anasazi ceramics included types from the Basketmaker III period to early Pueblo IV or from *circa* A.D. 600 to A.D. 1350-1400" (Kayser et al. 1975:165).

The sites of the Gallita Springs area are ascribed to peoples displaying basically Mogollon cultural traditions from the Early Pine Lawn Phase, *circa* A.D. 200 to the Late Tularosa Phase, *circa* A.D. 1350 (Kayser et al. 1975:212). The ceramics from the largest of these sites covers the entire span of occupation, and the frequency of the various types are given in Tables 8.1 and 8.2 for comparison with ceramics from the SACA locale.

A summation of the discussion concerning the ceramics at the Gallita Springs sites is provided below by Kayser et al., (1975:195-198).

The majority of the ceramics recovered from the Gallita Springs sites clearly indicated the affiliation of the sites with the Mogollon Culture. Brownware utility sherds generally conformed to previously published descriptions of Mogollon types. Exceptions were a small minority of Blind Plain Corrugated and Blind Indented Corrugated brownware sherds. This group occurred with the regular plain or in-

Table 8.1. Ceramic Type Frequency From LA 6083: Decorated Types.

Pottery Type	Strip Zones: Surface	Strip Zones: Strip Zones	Structures: Tularosa Phase	Structures: Late Reserve Phase	Structures: Early Reserve Phase	Pit Houses: 40	Pit Houses: 56	Pit Houses: Other	Total
Tularosa B/W	27	31	13	3	12	18	-	1	105
Reserve B/W	28	40	9	9	68	77	-	9	240
Red Mesa B/W	95	66	13	26	96	319	-	15	630
Mimbres	11	7	1	1	13	113	-	1	147
Cebolleta B/W	8	-	-	-	-	-	-	-	8
Chaco B/W	12	2	-	-	-	-	-	-	14
Chupadero B/W	4	2	-	-	-	-	-	-	6
Escavada B/W	-	1	-	-	-	-	-	-	1
Gallup B/W	16	1	-	-	-	-	-	-	17
Kana'a B/W	4	3	-	-	-	-	-	-	7
Kiatuthlanna B/W	8	13	-	-	-	5	-	-	26
Kowina B/W	-	-	2	-	-	-	-	-	2
Pinedale B/W	10	9	-	-	-	-	-	-	19
Puerco B/W	6	5	-	-	-	-	-	-	11
Snowflake B/W	21	17	-	-	-	-	-	-	38
Socorro B/W	12	12	-	-	-	-	-	-	24
White Mound B/W	-	-	-	-	-	4	-	-	4
White-Slipped	53	79	19	29	127	141	-	7	455
Unidentified B/W	22	26	-	-	14	6	-	-	68
Subtotal (B/W)	337	314	57	68	330	683	0	33	1,822
San Francisco Red	17	22	2	3	20	20	3	4	91
Playas Red	1	-	-	-	-	1	-	-	2
Puerco B/R	6	5	-	-	8	-	-	-	19
Wingate B/R	12	10	-	-	7	-	-	-	29
St. Johns B/R	2	3	-	-	-	-	-	-	5
St. Johns Poly.	8	3	2	-	-	-	-	-	13
Springerville Poly.	1	1	-	-	-	-	-	-	2
Four Mile Poly.	2	2	-	-	-	-	-	-	4
Glaze-on-yellow	1	-	1	-	-	-	-	-	2
Three Circle R/W	-	2	-	-	-	18	-	-	20
Tularosa W/R	-	6	-	-	-	-	-	-	6
Starkweather Smudged		-	2	-	2	-	-	-	2
Subtotal (Other)	50	56	5	5	35	39	3	4	197
Total (Decorated)	**387**	**370**	**62**	**73**	**365**	**722**	**3**	**37**	**2,019**

(Adapted from Kayser et al. 1975:170)

Table 8.2. Ceramic Type Frequency From LA 6083: Utility Types

Pottery Type	Strip Zones		Structures						
	Surface	Strip Zones	Tularosa Phase	Late Reserve Phase	Early Reserve Phase	Pit Houses 40	Pit Houses 56	Other	Site Total
Lino Gray	-	-	-	-	1	-	-	4	5
Kana'a Gray	-	-	-	-	-	16	-	-	16
Gray Plain Corrugated	2	9	5	1	5	23	-	11	56
Subtotal (Gray)	2	9	5	1	6	39	0	15	77
Alma Plain	1,490	710	99	194	727	1168	101	100	4589
Alma Plain, Sm. Int.	329	360	82	41	594	92	25	57	1580
Alma Incised	2	2	-	-	5	2	8	-	19
Alma Incised, Sm. Int.	1	1	-	-	9	-	3	-	14
Alma Punched	1	2	-	-	5	18	2	-	28
Alma Neck Banded	27	10	1	5	35	129	5	8	220
Three Circle, Neck Corr.	17	61	4	3	33	172	1	6	297
Reserve Smudged	134	35	7	4	104	143	-	11	438
Reserve Fillet Rim	1	-	-	-	1	1	-	-	3
Reserve Plain, Corr.	526	279	70	101	364	218	-	43	1601
Reserve Pl. Corr., Sm. Int.	97	68	22	6	120	209	-	3	525
Reserve, Indented Corr.	332	183	154	48	98	25	-	2	842
Reserve Ind. Corr., Sm. Int.	62	48	17	1	31	13	-	1	173
Reserve, Incised Corr.	58	34	7	2	54	8	-	2	165
Reserve Inc. Corr., Sm. Int.	3	-	-	-	13	-	-	-	16
Reserve, Punched Corr.	15	12	17	3	118	3	-	-	168
Reserve Punch. Corr., Sm. Int.	2	-	3	-	2	3	-	2	12
Tularosa Fillet Rim	37	20	13	5	16	8	-	-	99
Tularosa, Patterned Corr.	23	32	6	4	16	3	-	164	248
Tularosa Pat. Corr., Sm. Int.	9	14	6	-	4	9	-	-	42
Blind Plain Corr.	10	12	3	-	12	4	-	-	41
Blind Pl. Corr., Sm. Int.	7	3	1	2	2	2	-	-	17
Blind Ind. Corr.	9	15	5	3	9	1	-	-	42
Blind Ind. Corr., Sm. Int.	1	9	1	-	-	-	-	-	11
Basket Impressed	-	-	-	-	1	-	-	-	1
Knobby Brown	2	-	-	-	3	-	-	-	5
Unindentified, Utility	20	20	5	3	24	19	5	5	101
Subtotal (Brown)	3215	1930	523	425	2400	2250	150	404	11297
Total (Utility)	**3217**	**1939**	**528**	**426**	**2406**	**2289**	**150**	**419**	**11374**

(Adapted from Kayser et al. 1975:175)

dented corrugated sherds on unsmudged and smudged variants. In all attributes, except for smoothing of the corrugations, these blind corrugated types conformed to the published descriptions of Reserve Plain Corrugated and Reserve Indented Corrugated and the smudged interior variants (Rinaldo and Bluhm 1956). The distribution of the Blind corrugated types was in the later structures of the Gallita Springs sites. The lateness of the oc-

currence of the smoothing or obliteration of utility pottery coils is a trend that is duplicated in other brownware and grayware areas in the southwest during the 13th and 14th centuries.

Other distinctive brownware types included a very small number of sherds with basket impressions, wipe marks, or knobby appliques on the exteriors of otherwise Alma Plain sherds.

There were so few sherds with these treatments that it is only possible to comment that they occurred at the Gallita Springs Sites.

Mogollon Brownware culinary types at the Gallita Springs sites exhibited the following trends:

1. Differentiation of culinary types increases during the Reserve and Tularosa phases.

2. Indented corrugated pottery frequency increases as plain corrugated types and variants decrease.

3. Types using indented corrugation co-occur with Reserve Black-on-white. This contrasts with the utility pottery at Jewett Gap Pueblo, six miles west of Gallita Springs, where Barter observed that indented corrugated pottery post-dated Reserve Black-on-white (Martin et al. 1957:99).

4. Incised corrugated pottery is in association with indented corrugated pottery. Again, this contrasts with Barter's ceramic study at Jewett Gap Pueblo.

5. San Francisco Red was present at Gallita Springs sites in structures dating as early as the Pine Lawn Phase and as late as the Tularosa Phase.

6. San Francisco Red jars from later structures often have two to four bands of indented neck corrugations.

7. Reserve Fillet Rim occurred in very limited quantities at Gallita Springs. So few sherds of the type occurred that the type might be considered a trade type from such lower elevation areas as the Pine Lawn and Tularosa valleys.

8. Reserve Smudged occurred in only limited amounts during the Three Circle, Reserve, and Tularosa phases in contrast to its greater frequencies in sites to the south.

9. Interior smudging of vessels of all types increases during the Reserve and Tularosa phases.

10. Blind Plain Corrugated and Blind Indented Corrugated sherds show increase in frequency during the late Tularosa Phase.

Grayware utility sherds, while few in number, did indicate that trade with the Anasazi areas occurred and was not limited to the Anasazi decorated types.

Decorated black-on-white and black-on-red and polychrome types conformed to published descriptions. White-slipped pottery, lacking any diagnostic decoration were grouped without further attempts to separate them. A brief megascopic examination indicated that 94 percent were probably locally-made types. The remaining 6 percent were not readily identifiable as to the area of probable origin, but they definitely were not local.

➡Tularosa Black-on-White

This type (Rinaldo and Bluhm 1956:177) accounted for 17 percent (969 sherds) of all decorated sherds recovered on the project. The type was definitely locally-made, but Anasazi-inspired (op. cit.: 155). Two design styles appeared most frequently. The predominant style (852 sherds) was the Tularosa Style (Carlson 1970:91, Fig. 46). This style occurred in the upper fill of earlier-than-Tularosa Phase structures, and in the fill and on the floor of Tularosa Phase structures. The second style (117 sherds) found on Tularosa Black-on-white sherds is best described as Klagetoh style (Smith:1971:270, Fig. 149). This style often appeared on sherds from the floors of Tularosa Phase rooms in association with polychrome types such as St. Johns Polychrome.

➡Reserve Black-on-White

Also locally-made and Anasazi inspired, this type accounted for 20.3 percent (1,159) of the decorated types from the Gallita Springs sites. Three major styles of decoration were used on

this type: Wingate Style (Carlson 1970:90, Fig. 45) was the most prevalent (902 sherds). The second most important (221 sherds) was a Puerco Style (Carlson 1970:89, Fig. 44). The third and least common (36 sherds) was a Holbrook Style of design (Carlson 1970:88, Fig. 43). The latter, often called Red Mesa Style, is exemplified by Red Mesa Black-on-white (Gladwin 1945). A study of the occurrence of design elements on Reserve Black-on-white (100 sherds) is summarized in Table 8.3.

➡Red Mesa Black-on-white

This type accounted for 13.5 percent (770 sherds) of all the decorated pottery recovered at the Gallita Springs sites. Megascopic examination of this Anasazi pottery type indicated that most of the sherds were not locally made. Four design styles were discernible on the sherds recovered. The earliest style (102 sherds) was a Kiatuthlanna-like design (Smith 1973:35, Fig. 22), and occurred in the lower fill and on the floor of the Three Circle Phase pithouse-kiva at LA 6083.

➡Mimbres Black-on-white

This category (Hawley 1936:62) accounted for 4.5 percent (254 sherds) of the decorated sherd sample from the Gallita Springs sites. Included in the category are both Mimbres Black-on-white (Classic) and Mangus Black-on-white (Bold Face). The majority of the sherds would fall into the latter type and all were made in the Mogollon region in southwestern New Mexico.

Other decorated types found at the Gallita Springs sites indicated that the inhabitants of the sites were, in some way, involved in trade or exchange with other cultural areas and subareas.

➡Chaco Trade

Occurrence of Kana'a Gray, White Mound Black-on-white, Kiatuthlanna Black-on-white, Escavada Black-on-white, Gallup Black-on-white, and Chaco Black-on-white substantiates trade with the general Chaco area to the north. Tree-ring dates (Breternitz 1966) for these pottery types suggest a possibility of trade with that area as early as A.D. 675 and as late as A.D. 1200.

➡Gallup-Wingate Trade

The presence of Puerco Black-on-white, Puerco Black-on-red, Wingate Black-on-red, and Wingate Polychrome sherds at the Gallita Springs sites suggest some connection with the areas producing these types in the vicinity

Table 8.3: Reserve Black-on-white Design Elements at LA 6083

Element	Frequency	Design Style
Diagonally Hatching	15	Wingate
Solid Triangles	27	Puerco
Opposed solid and hatch-filled triangles	5	Wingate
Opposed solid and broad-hatch-filled triangles	13	Wingate
Solid broad lines	13	Puerco
Narrow lines	4	Puerco
Interlocking solid and hatched scrolls	2	Holbrook
Broad diamonds	3	Puerco
Parallel broad solid lines and rows of dots	1	Holbrook
Parallel broad solid lines with find lines in between	6	Puerco
Checkerboards, squares	2	Puerco
Parallel heavy-lined hatching and fine lines	2	Wingate-Holbrook
Miscellaneous	7	Wingate
TOTAL	**100**	

(Adapted from Kayser et al. 1975:197)

of Gallup and the area to its southwest. Tree-ring dates (Breternitz 1966) indicate that this trade probably occurred in the 11th, 12th, and 13th centuries when this area was a Chacoan, or at least Chaco-influenced area.

➡ Acoma-Cibola Trade

Cebolleta Black-on-white and, probably, Kowina Black-on-white indicate a trade connection with this area northeast of the Gallita Springs site at least sometime during the 12th and 13th centuries.

➡ Rio Grande Trade

Indirect or direct trade with the Middle Rio Grande Region was suggested by the occurrence of Chupadero Black-on-white, Socorro Black-on-white, and glaze-on-yellow sherds. Dates for these types suggest trade during the 13th and 14th centuries.

➡ Northern Chihuahua Area Trade

The few sherds of Playas Red found on the Gallita Springs sites are suggestive of some degree of contact with the northern region in Chihuahua, Mexico.

➡ Little Colorado Trade

Snowflake Black-on-white, Pinedale Black-on-white, St. Johns Black-on-red, and St. Johns, Pinedale, and Four Mile polychromes indicate contact with the Upper Little Colorado drainage to the west and northwest of the Gallita Springs sites. The dates for these types range from A.D. 1150 (Snowflake Black-on-white) to A.D. 1400 (the terminal date for Four Mile Polychrome (Breternitz 1966:75, 96).

➡ Mimbres and Southern Mogollon Trade

Trade with Mogollon groups south of Gallita Springs was indicated by the occurrence of Mangus (Mimbres Bold Face) Black-on-white and Mimbres (Classic) Black-on-white which were made in greater quantities in the Mimbres area to the south.

The Gallita Springs Mogollones may not have been involved in direct trade with all of the above areas, but may have benefited in being close to trade routes between the Chaco and southern regions. The Rio Grande and Little Colorado pottery types post-date the collapse of the Chaco, and probably reflect direct trading by Mogollones in the Gallitas Springs area.

Other Museum of New Mexico excavations (Kayser 1972a, b, c, 1973, 1976; Kayser and Dart 1977) in the 1970s occurred in areas nearby the SACA. Much of the excavated materials from these projects were analyzed, recorded, and tabulated. However, no detailed final reports were prepared. This data could contribute to the understanding of the cultural processes occurring in the SACA.

Design Styles:

Ceramic artifacts have long been a major focus of study for archeologists in the American Southwest. Richard Lang (1982:153) remarks that the collective purpose of archeologists has been the definition of certain broadly shared attributes found in indigenous southwestern pottery. Most often, it is the painted pottery which is intensely studied in efforts to identify areas of origins, growth and spread of popularity, geographic distribution, regionality, geneology, acceptance or rejection of certain attributes, temporal placement, and various other cultural contextual elements.

One such broadly shared attribute of painted pottery is style. A style is defined as a particular kind, sort, or type, with reference to form, appearance, or character; it is a method of reckoning time (Urdang 1973). Style is a variable factor which changes through time.

Design styles on southwestern native ceramics were the source of numerous studies (Amsden 1936; Breternitz 1982; Bunzel 1929; Carlson 1970, 1982; Colton 1953; Colton and Hargrave 1937; Doyel and Debowski 1980; Fowler 1985; Hawley 1936; Hartman and Lightfoot 1978; LeBlanc 1982; Plog 1981; Snow 1982; Wasley 1959; Windes 1981). These and other studies illustrate that styles are recognizable, time sensitive, and useful tools for the development of chronologies.

Other investigators (Brainerd 1942; Hill 1966, 1970; Longacre 1964; Plog 1977; Schroeder 1982; Stone 1986; Washburn 1977; Zaslow and Dittert 1977) attempted, with varying degrees of success, to show various cultural processes by intra- or inter-site, locale, region, or district analyses of styles. Often, styles are used to "examine the ceramic situation over an

extensive region in an attempt to outline origins, directions of flow, and the extent of the transmittal of traits and styles (attributes)" (Schroeder 1982:3).

During the 1930s, major studies (Colton and Hargrave 1937; Hawley 1936; Mera 1939) recognized that the combination of attributes in ceramics to form repetitive patterns constituted the style of design, which was an important time correlation criterion (Schroeder 1982:4).

Ceramic styles also have been used for lumping pottery types on the basis of design (Wasley 1959:289). Phillips and Gifford (1959:22) define design style as "a mode grouping that emphasizes aspects of any ceramic picture that concerns design element distribution through time and space."

Colton and Hargrave (1937) in their major study recognized that the combination of elements formed motifs and that the orderly repetition of these resulted in patterns which, if they occurred in two or more pottery types, designated a style. Styles helped archeologists understand the trends and influences upon southwestern ceramics, which in turn could illuminate the details of southwestern history and so be compiled (Colton and Hargrave 1937).

Schroeder (1982:7) remarks, "Some styles and technologies of certain traditions were long-lived while others were not. The life of a style within a ceramic tradition undoubtedly varies according to the traditional nature of the society, the locational and demographic factors, and/or the degree (or lack) of extra-local influences."

There have been numerous studies of ceramic styles which "investigated various aspects of the use of stylistic regularities and structural analysis for the delineation of groups and group interaction patterns" (Washburn 1977:9). However, it must be recognized that the concept of a ceramic style is not equivalent with the concept of a cultural group, nor is it to be equated with an archeological type.

Ceramic styles were defined for geographic areas adjacent or near the SACA by various authors. West of the SACA lies the Western Anasazi area, with ceramic styles first defined by Colton and Hargrave (1937:15-18) and refined by Colton (1953:46-50). Breternitz (1982) summarizes their work: "They define a series of styles for black-on-white pottery (including black-on-gray) that are indigenous to the Western Anasazi . . . The most valid (useful) are, from earlies to latest: Lino, Kana'a, Black Mesa, Sosi, Dogozshi, Flagstaff, Tusayan (Wupatki), Kayenta, and Jeddito styles." Moreover, these styles, Breternitz (1982:141) feels, "are useful time markers and appear to be essentially contemporary throughout the Western Anasazi."

In the Springerville, Arizona area, whitewares were also classified on the basis of design style (Doyel and Debowksi 1980). This scheme followed the general outline of Colton (1953).

Fowler (1985:109-117), for the Fence Lake Coal Lease which is located in the center of the SACA, utilized a similar design style series as Doyel and Debowski (1980) to categorize the whiteware ceramics. This series classified the whitewares into a sequence, from early to late, which included the following styles: Red Mesa, Puerco, Reserve, Tularosa, and two transitional styles of Reserve/Tularosa and Indeterminate Reserve. The Indeterminate Reserve category is apparently those sherds which exhibit either Puerco-Reserve or Red Mesa-Reserve characteristics.

Ceramics in the SACA which bear black-on-gray or black-on-white designs have been found to be time sensitive in the survey area (Camilli et al., 1988; Danson 1957; Fowler 1985; Wasley 1959). The sequence of these design styles includes: Lino, Kana-a-La Plata-White Mound, Red Mesa, Puerco, Reserve, Tularosa, and Klagetoh (Figure 8.1). Again, it should be emphasized that design styles are not necessarily equivalent to pottery types. However, a pottery type bearing the same name as the design style is generally the model for the design style classification category.

The White Mountain Redware ceramics of Black-on-red and Black-on-red polychromes are painted in styles which are time sensitive (see Carlson 1970, 1982). The same generalized styles of painting occur on both the

bichromes and polychromes of the same region and period (Carlson 1982:203). The composition of motifs and the way motifs of varying composition are combined on a given field of decoration are of basic importance in understanding stylistic changes (Carlson 1970:84). Moreover, color patterns, layout, decoration focus, and brush work are also important factors. The sequence of styles (Figure 8.2), from early to late is Puerco, Wingate, Tularosa, Pinedale, and Four Mile (Carlson 1970).

Decorated Mogollon brownwares also display design styles which are useful as time markers (see LeBlanc 1982:110-116; McGregor 1974). However, these styles are not discussed here as none were identified during the 1985 survey.

In general, all the painted pottery in the Southwest displays widespread similarities in ceramic styles, which is viewed by Carlson (1970:84; 1982:229) to be a result of diffusion or actual population movement. Schroeder (1982:19) elaborates, "It is obvious that various factors and/or events affected southwestern potters (as well as cultures), some more strongly than others. The type of diffusion in turn may well have depended on the nature of contact and existing trade channels. The introduction of various ceramic innovations on occasions was accompanied by other material culture traits, raising the possibility that some of the ceramic changes might have been part of a complex of related traits . . ."

Both brownware and grayware culinary ceramics display distinctive surface manipulation techniques which are useful as broad temporal markers (Table 8.4). Within the project area, there are at least seven techniques beginning at various times. The techniques or surface manipulation styles (Figure 8.3) are: plain surface, neck banding, shoulder corrugated, plain corrugations, indented corrugations, patterned corrugations, and tooled corrugations. Late grayware culinary ceramics also display a surface manipulation technique known as obliterated corrugated in which the corrugations are partially obliterated by smoothing, rubbing, or other manipulation.

These surface manipulation techniques are often contemporaneous with each other. However, each technique enters at a distinct time period, and so is useful as a broad temporal marker.

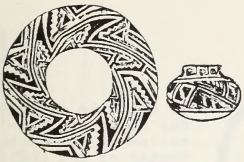
Brownware plain surfaced pottery undergoes several changes, such as surface smoothing and polishing or the addition of a thin red slip on some vessels. These do not have counterparts in the graywares. Surface smoothing and polishing occur sometime before A.D. 500 (Schroeder 1982:9) and the addition of a red slip to some vessels begins about A.D. 500. Schroeder also notes the occurrence of a somewhat fugitive redware earlier at A.D. 300 (Schroeder 1982:10). The interior surfaces of some brownware bowls began to be smudged and highly burnished about A.D. 650 (LeBlanc 1982:106; Chart Mogollon Ceramics).

Other Ceramic Attributes

Other ceramic attributes recorded during the SACA '85 survey included vessel forms and bowl smudging. The categories employed for vessel form were bowls, jars, ladles, and indeterminates. Bowls with polished, intentionally smudged interiors were recorded separately from unsmudged bowls. Bowl sherds were distinguished from jar sherds by the presence of interior polishing, a rim other than the everted or inverted form, and when discernible, the sherd curvature (Camilli et al., 1988).

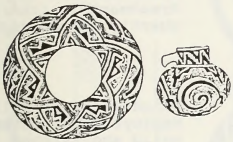
Ceramic Descriptions

An understanding of the settlement patterns in the SACA through time can be gained from the reasonably accurate placement of the cultural resources within the chronology of the area. Chronology of the settlements is based on the identification of ceramic materials according to established typological systems such as Colton and Hargrave (1937), Colton (1955a, 1955b, 1956, 1958), Hawley (1936), and others. Within the SACA, there are few excavated sites and the chronology is based on the analysis of surface ceramics and resultant data as collected by the previously described sampling techniques.



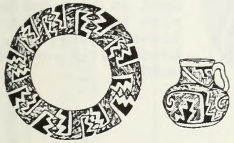


Klagetoh
Parallel hatchure, free flowing solids.



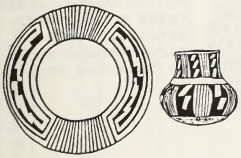


Tularosa
Parallel hatchure, rectilinear design.



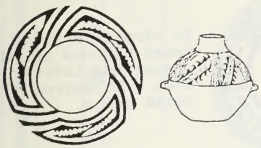


Reserve
Oblique hatchure, curving designs, interlocking solids and hatchure.



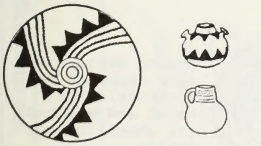


Puerco
Solids banded by lines. No hatchure, parallel lines. No interlocking of solids and parallel linework.



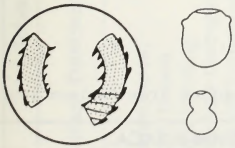


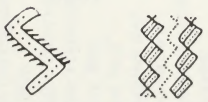
Red Mesa
Pendant dots, curvy hatchure, very open.





Kana'a-La Plata-White Mound
Linear linework and solid elements.

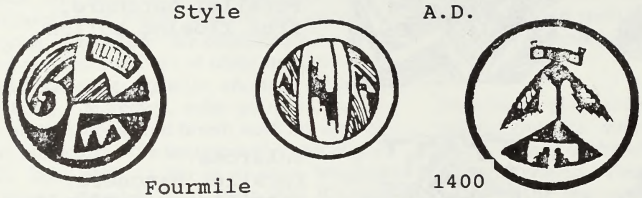




Lino
Dot and dotted spaces very common.

Compiled from Carlson 1970; McGregor 1974; Schroeder 1982

Figure 8.1: Design Styles on Black-on-White Ceramics in SACA.



Compiled from Carlson 1982

Figure 8.2: Black-on-Red and Black-on-Red Polychrome Styles in SACA.

Table 8.4. The chronological sequence of surface treatment on brownware and grayware pottery in SACA.

Surface Treatment	Dates A.D.	Approximate Span
		200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500
Brownwares:		
Plain Brown	200-1350	
Neck Banding	c.650-925	
Shoulder Corrugated	800-1050+	
Overall Corrugated	1050-1350	
Plain Corrugated	800-1150	
Indented Corrugated	900-1350	
Patterned Corrugated	1000-1250	
Tooled Corrugated	1000-1200	
Fillet Rim	1000-1250	
Smudged Interior	650-1300	
Exterior Polishing	c.500-1300	
Fugitive Red	400-600	
Slipped Red[3]	500-1350	
Corrugated Red	900-1350	
Red-on-brown[1]	625-750	
Red-on-buff/white[1]	750-850	
Graywares:		
Plain Gray[2]	c.400-1350	
Neck Banded	c.700-900	
Shoulder Corrugated	900-1075	
Overall Corrugated	950-1350	
Plain Corrugations	900-1350	
Indented Corrugations	950-1350	
Patterned Corrugations	950-1350	
Tooled Corrugations	1000-1350	
Obliterated Corrugations	1250-?	

(Adapted from Breternitz 1966; Schroeder 1982)

1. Decorated brownwares.
2. Plain gray vessels become rare after A.D. 850.
3. Self slip develops into true slipped redware.

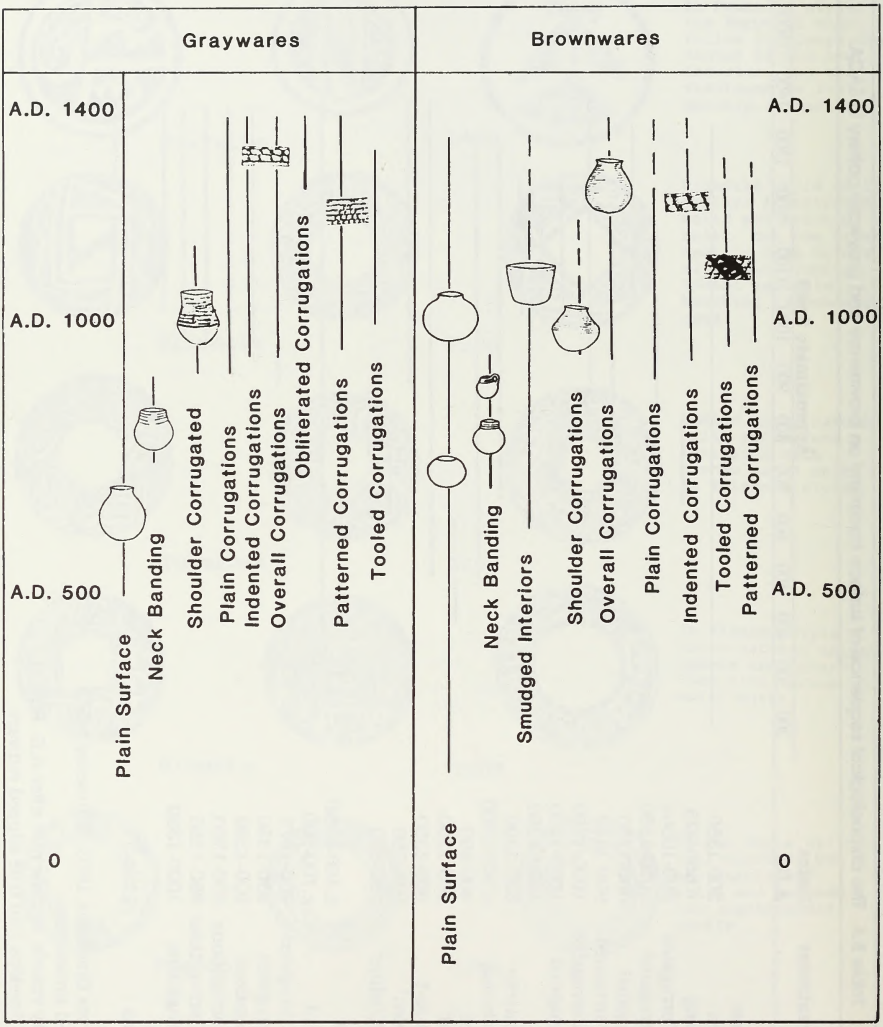


Figure 8.3: Surface Manipulation Styles on Grayware and Brownware

The sampled sherds were identified by typological categories which divided the ceramics first into ware classifications and second into types whenever possible.

As in other recent studies within the SACA (Hogan et al., 1985; Camilli et al., 1988) six wares were identified as well as numerous types within each of the wares.

The ware categories included decorated whitewares, decorated Mogollon wares, redwares, brownwares, graywares, and minor wares. Ceramics within these ware groupings were assigned to type categories as defined by generally accepted ceramic typologies for the region (Camilli et al., 1988). The types used during the 1984 and 1985 surveys are given in Table 8.5).

Table 8.5. References for the Ceramic Types Used in the SACA Surveys

Decorated Whiteware:	Descriptive Reference
Chaco B/W	Windes 1981
Chaco-McElmo B/W	Windes 1981
Chupadero B/W	Hawley 1936; Wiseman 1986
Escavada B/W	Colton 1953; Windes 1981
Gallup B/W	Colton 1953; Windes 1981
Kiatuthlanna B/W	Cibola Whiteware Conference 1958
Klagetoh B/W	Smith 1971, Colton and Hargrave 1937
Kowina B/W	Dittert 1959
La Plata/Kana'a/White Mound B/W	Kidder and Guernsey 1919; Cibola Whiteware Conference 1958; 1936
Lino Black-on-gray	Hargrave 1932; Colton 1955a
McElmo-Mesa Verde B/W	Abel 1955
Puerco B/W	Colton 1953; Windes 1981
Puerco - Escavada B/W	Camilli et al. 1988
Red Mesa B/W	Colton 1953; Windes 1981
Reserve B/W	Martin and Rinaldo 1950b
Reserve-Tularosa B/W	Doyel and Debowski 1980
Socorro B/W	Hawley 1936
Snowflake B/W	Colton 1941
Tularosa B/W	Rinaldo and Bluhm 1956
Tularosa-Klagetoh B/W	Smith 1971
Decorated Mogollon Wares:	
Mogollon Red-on-brown	Haury 1936
Three Circle Red-on-white	Haury 1936
Mimbres Black-on-white	Cosgrove & Cosgrove 1932; LeBlanc 1980
San Francisco Red	Haury 1936
Redwares:	
Pinedale B/R	Carlson 1970
Pinedale Polychrome	Carlson 1970
Puerco B/R	Carlson 1970
St. Johns B/R	Carlson 1970
St. Johns Polychrome	Carlson 1970
Springerville Polychrome	Carlson 1970
Wingate B/R	Carlson 1970
Wingate Polychrome	Carlson 1970
Brownwares:	
Mogollon Brownwares	Colton and Hargrave 1937; Hogan et al. 1985; Martin & Rinaldo 1950a & b; Rinaldo & Bluhm 1956; LeBlanc and Whalen 1980
Graywares:	
Anasazi Graywares	Windes 1977; Hawley 1936; Hogan et al., 1985
Minor Wares:	
Anasazi-Mogollon B/W	Camilli et al. 1988
Anasazi-Mogollon Utility Ware	Crown 1981; Camilli et al. 1988
Roosevelt Redware	Colton 1956
Rio Grande Glaze Wares	Snow 1966; Warren 1979
Zuni Wares	Woodbury and Woodbury 1966

Decorated Whitewares

The decorated whitewares found in the survey area are mainly mineral painted, have gray-white paste, and are usually slipped white. These have been generally classified as being of the Cibola group. The whitewares were identified as to type on the basis of surfaces, temper, decoration, and overall attribute layout, as in other recent studies (Camilli et al. 1988; Doyel and Debowski 1980; Hogan et al. 1985).

The following descriptions of types are those used during the 1985 survey and are similar to those of the 1984 survey (see Camilli et al. 1988) of the SACA.

➡Chaco Black-on-White

Time Period: About A.D. 1075-1150 (Windes 1981).

Surfaces: The most distinguishing characteristics of Chacoan ceramics is the slip (Windes 1981:11). Generally, a hard paste covered by a glossy white moderately thin slip. Slipped only on decorated surfaces; often a band of slip below rims on vessel exteriors (slip-slop). Very highly polished.

Temper: Sherd and sand most common.

Decoration: Mineral paint, primarily dull black or brown. A hatched design is the only body motif. Heavy framing lines enclosing very thin (1-2mm) and closely spaced hatchure (1-2mm) distinguishes Chaco B/W. Often a solid rim band.

Layout: Designs are primarily rectilinear geometric hatched motifs. Very intricate line work.

Remarks: Very rare type even in Chaco Canyon.

➡Chaco-McElmo Black-on-White

Time Period: About A.D. 1100-1150 (Windes 1981).

Surface: Well polished, thin-whitewash, glossy slip. Slip generally restricted to the area of decoration and the remaining areas are left unslipped, such as bowl exteriors, jar bottoms, lower sides, and ladle undersides (Windes 1981:52). Slip under rims is very common.

Temper: Sand or sherd with trachyte, sand, sherd, sand and sherd.

Decoration: Carbon. "The majority of designs are wide parallel lines (Sosi style), banded parallelograms, fine checkerboards with dot fillers or sometimes linear-filled spaces and inter-locking sawteeth or keys. Dots are sometimes used in conjunction with other elements. Hatchure is absent" (Windes 1981:52). Rims are decorated with dots or left unpainted, rarely solid line, and slip-slop is very common.

Layout: Well executed closed design layouts.

Remarks: Surface treatment, paste, and temper are similar to Chaco B/W.

➡Chupadero Black-on-White

Time Period: About A.D. 1150-1400 (Breternitz 1966).

Surface: Decorated surfaces smoothed, unevenly slipped gray-white, and polished. Exterior of bowls and interiors of jars roughly striated.

Temper: Fine grained, small particles of dark stone and crushed sherd.

Decoration: Mineral, black iron pigment, often oxidizes to reddish-brown. Hatched, hatched and solid lines opposed, solids, wide lines, narrow lines, hatching and solids with points touching. Borders of heavy lines, rims often a solid line. Dotting between heavy lines is common.

Layout: Loose line work with opposed solid and hatched designs.

Remarks: Striations denote pottery type. See Wiseman (1986) for an excellent analysis of the type.

➡Escavada Black-on-White

Time Period: About A.D. 1000-1100 (Windes 1981), A.D. 925-1125 (Breternitz 1966).

Surfaces: Generally light gray-white; unpolished, unslipped or poorly slipped. "At the Chaco Center, Escavada B/W is essentially an unpolished poorly slipped Puerco B/W "(Windes 1981:36).

Temper: Sherd, sand, sherd and sand with rock.

Decoration: Mineral, primarily dull black or brown elements including solid triangles, interlocking scrolls, checkerboard, and wavy lines. Solid rim bands are common, but dotted rims are present.

Layout: Designs are simply arranged upon the background. Solids alternating with heavy lines dominate. Similar to Red Mesa layout but with heavier line work.

Remarks: Windes (1981:36) considers Escavada B/W to reflect a degenerate Red Mesa style. Camilli et al., (1988) remarks "designs all solid triangles, broad parallel lines, nested broad-line chevrons."

➡Gallup Black-on-White

Time Period: About A.D. 1025-1150 (Windes 1981), A.D. 1000-1200 (Breternitz 1966).

Surfaces: Moderately thin to thin white slip with good to streaky polishing. Slip tends to be uneven. Slip beneath rims is common.

Temper: Sherd, sand, rock, sand, or sherd with rock.

Decoration: Mineral, primarily iron, dull black or brown. Elements almost exclusively composed of diagonal hatchure in ladders, triangles, and steps. Some interlocking hatchure with solid elements, and solid elements as fillers and borders. Handles and rims of ollas and canteens are usually decorated with simple, nonhatchured elements (Windes 1981:41). Most rims are solid line and slip-slop is common.

Layout: Open overall pleasing patterns. Generally, the layout is that of a geometric hatchure design (Dogoshi) pattern.

Remarks: Red Mesa and Chaco B/W also have hatchure designs but Gallup is distinguished from them by the weight of the framing lines (Gallup, generally equal to the hatchure; Red Mesa and Chaco, broader) and the weight, spacing, and angle of the enclosed hatchure. Reserve and Tularosa B/W also are hatchure designs, but can be distinguished from Gallup by the association of solid opposed design element with hatchure. Tularosa hatchure is usually longitudinal to the framing lines while Gallup hatchure is usually oblique.

➡Kiatuthlanna Black-on-White

Time Period: About A.D. 825-910 (Breternitz 1966).

Surfaces: White to creamy white, medium slip with good polish.

Temper: Fine quartz sand.

Decoration: Mineral painted designs composed of series of thin parallel lines in zigzag, stepped, or chevron patterns; some bordering solid triangles or parallelograms; triangles with ticked sides or pendant lines at one angle.

Layout: Designs divide vessel into quarters or thirds and are pendant to the painted rim.

➡Klagetoh Black-on-White

Time Period: About A.D. 1175-1325 (Smith 1971).

Surfaces: Moderate to very thick dead white to bluish gray slip, well polished, often crazed. Interiors of jars often steel gray.

Temper: Abundant opaque angular fragments with occasional grains of quartz sand.

Decoration: Mineral-carbon (iron-carbon or manganese-iron-carbon) dense black or rich reddish-brown paint. Elements include long parallel lines in sets of two to four, solid opposed triangles, stepped parallel lines, frets, fine parallel hatchure, large triangles and rectangles filled with closely spaced parallel hatching or cross-hatching, and interlocking hooks. Designs tend to be small, intricate, and produce a negative effect. Brushwork is freer than in Tularosa B/W, the edges of painted areas sharply defined and the ends of intersecting lines often carry beyond the point of in-

tersection. Diagonal hatching and opposed diagonal hatching and solids are rare.

Layout: Very closed spaced overall designs; groups of narrow vertical lines frequently occur between design panels.

Remarks: Kalgetoh Black-on-white is often referred to as a later version of Tularosa Black-on-white (see Smith 1971:267-268; Camilli, et al., 1988), and sherds from the latest tree ring dated site on Mariana Mesa (see McGimsey 1980: Figures 45, 46, 47, 48, 49) do resemble Klagetoh. See Camilli et al., 1988 for an interesting discussion of this late type.

➡Kowina Black-on-White

Time Period: About A.D. 1200-1400 (Dittert 1959).

Surfaces: Moderately thick creamy light yellow to creamy white slip having good polish.

Temper: Sherd and sand, some crushed rock.

Decoration: Mineral, tends to be red-brown. Design elements include thick solid lines in parallel, chevrons, large hatchure. Similar to Tularosa or Reserve Black-on-white. Freer draftsmanship.

Layout: Design confined to a band on the interior of bowls; jars have an overall zonal or panel design.

Remarks: Considered to be a derivative of Tularosa Black-on-white with freer draftsmanship.

➡La Plata/Kana'a/White Mound Black-on-White

Time Period: About A.D. 575-900 (Whiteware Conference 1958).

This category lumps several temporally, stylistically, and technologically similar types together for "simplicity's sake" (Camilli et al., 1988).

Surfaces: White to gray surface colors with protruding temper on either no slip, a float, or a thin white slip with smooth, light, polish.

Temper: Coarse to medium sand.

Decoration: Mineral (La Plata and White Mound) or Carbon (Kana'a) painted designs including filled triangles and bands with solids outlined with parallel, barbed, or flagged lines, often pendant dots and flags.

Layout: Very open. Design layout consists of isolated groups of elements and narrow lines, sometimes pendant from the rim and crossing over to the opposite rim in a band.

Remarks: This category, perhaps, is an oversimplification of the three, often distinct, pottery types. The category, designed for the 1984 survey, was also used during the 1985 survey. It combines types which differ in paint, slipping, and polishing attributes. There are also temporal differences between the types.

La Plata and White Mound B/W are decorated with mineral paint designs while Kana'a has carbon paint. Kana'a bowl interiors are slipped white (Hargrave 1932; Hawley 1936; Colton 1955a) while La Plata and White Mound B/W are never slipped (Hawley 1936; Colton 1955a). La Plata B/W is considered to be a Basketmaker III-early Pueblo I pottery which is replaced by White Mound B/W (Hawley 1936), a late Basketmaker III-Middle Pueblo I pottery.

Kana'a B/W is a Pueblo I type while the other two begin somewhat earlier, are contemporary for a period of time, and end before Kana'a B/W. The presence of rim solids and design bordering lines distinguishes White Mound B/W from La Plata B/W. The designs are simple in La Plata B/W and become more complex in White Mound B/W. La Plata B/W also occasionally have simple life forms while White Mound does not.

➡Lino Black-on-Gray

Time Period: About A.D. 570-875 (Hargrave 1932; Colton 1955a; Breternitz 1966).

Surfaces: Scraped and floated but not slipped or polished, with temper particles protruding through both surfaces.

Temper: Coarse quartz sand.

Decoration: Carbon painted designs composed of narrow lines which are frequently ticked or fringed, solid or open triangles with pendant dots; dot-filled spaces with narrow framing lines.

Layout: Designs wander across vessel, sometimes pendant to the rim; rarely in encircling bands.

➡McElmo-Mesa Verde Black-on-White

Time Period: About A.D. 1090-1250 (Breternitz 1966).

Surfaces: Yellowish-white to pearly-white slip, generally thick and often crackled; polish varies from streaky to well done. Bowls slipped on exterior and interior; jars on exterior only, some with slip applied on interior lip. Occasional spalling or weathering of slipped surface.

Temper: Sherd, crushed rock, sand.

Decoration: Carbon paint, generally dense black to purplish black, rarely reddish black. Design elements include broad lines (Sosi style) diagonal or cross hatching between parallel framing lines, solid triangles, hourglasses, checkerboards, dotted grids, scrolls, and elongated triangles. Late design elements include the most common multiple parallel banding lines, hatching and solids, checkerboard, and dots.

Layout: On bowls generally pendant from the rim. Rims are dotted or ticked, not solid line. Late bowls exhibit exterior design band. Jars are decorated in bands just below the shoulder.

➡Puerco Black-on-White

Time Period: About A.D. 1000-1150 (Windes 1981).

Surfaces: Generally, only decorated areas exhibit a thin white slip, other areas unslipped, slip-slop under rims present. Again, only decorated areas show a polish which varies in degree, although overall the majority of Puerco B/W exhibit good polishing on at least the slipped areas (Windes 1981:14).

Temper: Sherd, sand, sand or sherd with rock.

Decoration: Mineral paint primarily dull black or brown. Design elements include broad lines, solid triangles, negative lightning, checkerboards, and parallel hatching. Rim designs are mainly solid lines.

Layout: Generally banded and often pendant from rim. "Designs with solids and heavy lines dominate. Fine line work and hatchure comprise a minor part. Many of the elements found on Red Mesa B/W are repeated on Puerco, but are of heavier line work on Puerco," (Windes 1981:38). "Bands of vertical parallel lines alternating with bands of horizontal parallel lines. Bands of vertical parallel lines separating patterns in solid black," (Hawley 1936:34).

➡Puerco/Escavada Black-on-White

Time Period: About A.D. 1000-1150.

Surfaces: Rough to poorly polished with a thin or no slip.

Temper: Sand or sand and sherd.

Decoration: Mineral painted elements including broad lines, solid triangles, negative lightning, wide-spaced diagonal hatchure, checkerboards, parallel hatching; basically a Sosi style; designs often combine several elements and paint work is often sloppy.

Layout: Generally banded and often pendant from rim.

➡Red Mesa Black-on-White (Figure 8.4)

Time Period: About A.D. 875-1125 (Breternitz 1966; Windes 1981).

Surfaces: Most bowls are slipped on both surfaces, while jars are slipped only on the exterior. Many bowl rims exhibit a band of slip on the exterior surface. Slips tend to be thin or thin streaky, rarely thick, white or white streaky, and are well polished. Slips do not have the crackling common to the San Juan-Mesa Verde whitewares or later Cibola whitewares, nor the grainy appearance of Tusayan whitewares.

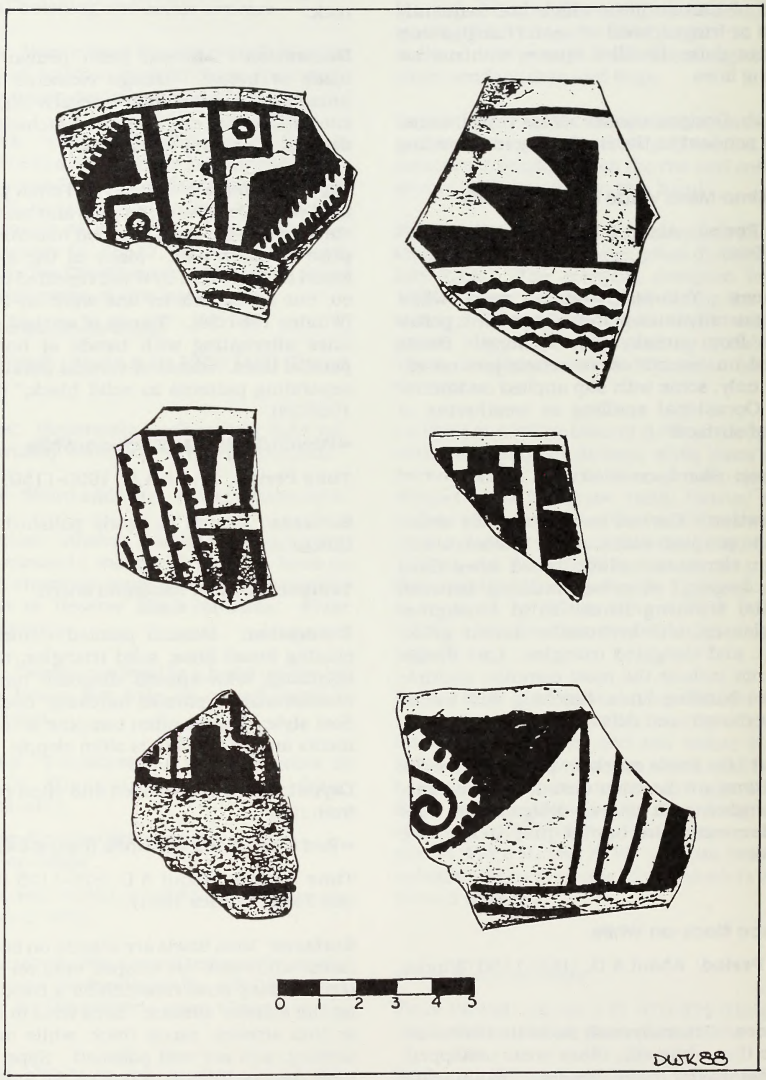


Figure 8.4: Red Mesa Black-on-White: top and middle rows — Bowls; bottom row — Jars.

Temper: Sand, sand and sherd, sand or sherd with crushed dark rock.

Decoration: Mineral, often black to dull black but can range to reddish-brown or even red. Painted designs incorporate a combination of elements which include dotted or ticked barbed lines, dotted and undotted triangles, lines extending from steps, steps, wavy or squiggle lines in multiplies, squiggle or oblique straight line hatchure, combinations of several elements. Rim usually painted with solid line.

Layout: Generally banded below the rim, banded on jar bodies.

➡Reserve Black-on-White (Figures 8.5 & 8.6)

Time Period: About A.D. 950-1100 (Martin and Rinaldo 1950).

Surfaces: Very light gray to white, typically white. Thin to medium, sometimes thick slip on slightly undulating surface, polish is streaky to good. Bowls are usually not slipped but often are scraped and polished on the exterior. Jar interiors are not slipped and often are rough and granular. Bowl interiors are always polished.

Temper: Finely ground sherd, sand, and sherd.

Decoration: Mineral paint, probably iron oxide, color ranges from a deep black to a reddish brown-black, generally dull. The most common design elements are: diagonal hatch, solid triangles, dot and circle within solid triangle, checkerboard in triangle, contrasted solid and hatched broad lines, solid broad lines, solid triangles in sawteeth are fairly large, and hatching lines are generally moderately wide spaced.

Layout: Both overall and banded layout present. Banded is more commmon. Band design on bowls extends from the rim or immediately below rim. Circular area in bowl bottom left unpainted. Typical pitchers have a band of solid elements around the neck and a wider band of contrasted solid and hatched design around the body. Circular unpainted areas found on pitcher bottoms. Rims most often are solid line, but sometimes are ticked. Bowls often have a large open circular space on interior bottoms.

Comparisons: Reserve Black-on-white is an early form of Tularosa Black-on-white. However, there are several differences which can serve to separate the types.

One useful diagnostic difference between Reserve Black-on-white and Tularosa Black-on-white is that the slip on Tularosa Black-on-white is far thicker, more lustrous, often porcelain-like, and frequently cracked. A more important diagnostic difference is that the design elements on Tularosa Black-on-white are generally smaller and the hatching is usually longitudinal and more closely spaced, averaging less than 1.0 mm between lines. Star patterns are more common on the bottoms of pitchers, which are more rounded in body, have shorter necks, generally smaller, and usually have effigy handles. Bowls are uncommon, but eccentric shapes are more common. Overall, the Tularosa patterns are more rectilinear than the curvilinear Reserve Black-on-white patterns.

In contrast to Reserve Black-on-white, the slip on Puerco Black-on-white is thinner or absent and the polish and surface finish are poorer. No opposed solid and hatched interlocking designs are present and more large, heavy, solid design elements are used. Painting and design work are often freer in execution.

➡Reserve-Tularosa Black-on-White

Time Period: About A.D. 1075-1150.

This category is intermediate between the two types and is characterized by either a lustrous, well-polished slip with wide-spaced heavy designs, or by a streakily polished, bumpy surface with longitudinal hatchure and more compact, fine-line designs. Designs are mostly interlocking opposed solid and hatchure, or solids. Surface finish is occasionally irregular, with polish never attaining the high luster of Tularosa Black-on-white. Although most sherds classified as Reserve/Tularosa Black-on-white do not necessarily exhibit all the characteristics of Reserve or Tularosa Black-on-white, they can be placed in either of the two types. We recognize that a continuum of



Figure 8.5: Reserve Black-on-White — Jars.

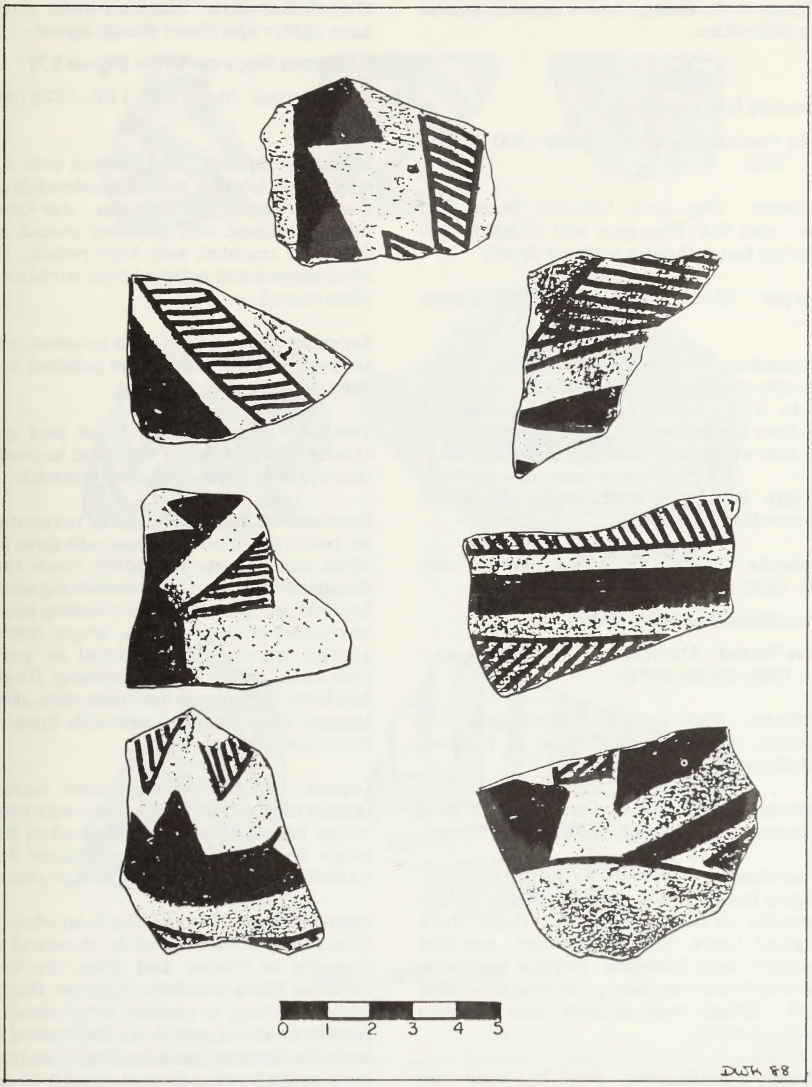


Figure 8.6: Reserve Black-on-White — Jars.

attributes exists between Reserve and Tularosa types, and use a Reserve/Tularosa category in an attempt to overcome classification difficulties.

➡Socorro Black-on-White

Time Period: About A.D. 1050-1300 (Breternitz 1966).

Surfaces: Very hard, vitreous, bluish-gray paste and thin blue-gray slip which is well polished but without a lustrous finish.

Temper: Sherd and crushed dark igneous rock.

Decoration: Dense black mineral paint, sometimes subglazes, in designs which include finely drafted opposed solid and hatchure, broad line and solid figures in conjunction with hatchure in banded patterns.

Layout: Banded, overall designs. Similar to Reserve Black-on-white.

Remarks: Distinguishing attributes are blue-gray color, temper, and paste hardness.

➡Snowflake Black-on-White

Time Period: About A.D. 1150-1300 (Breternitz 1966; Smith 1971).

Surfaces: Thin to creamy white slip, well polished, often crazed. Similar to Tularosa and Klagetoh Black-on-whites.

Temper: Sand, sand and sherd, sherd most common.

Decorations: Dense mineral-carbon paint ranging from black to reddish brown. Design elements include solids, thin lines, thick stepped lines, cross hatchure, parallel hatchure, dots, triangles. Designs tend to be small and close together, producing a negative effect. Brush work is freer than Tularosa Black-on-white.

Layout: Zonal Layout. Solid line work with opposed cross-hatchure; solid line work with opposed stepped line work; multiple, zonal, stepped line work.

Remarks: Difficult to separate from Tularosa Black-on-white and Klagetoh Black-on-white. Overall Snowflake Black-on-white tends to have tighter and closer design layout.

➡Tularosa Black-on-White (Figure 8.7)

Time Period: About A.D. 1150-1275 (Breternitz 1966).

Surfaces: Smooth, and covered with a light gray to pearly white, thick to moderately thick, lustrous, highly polished slip. Jar exteriors usually slipped and polished overall, often crazed or crackled, very high polish. Bowls often slipped and polished both surfaces, very often crazed.

Eccentric forms slipped and polished exterior surfaces. Ladles slipped and polished overall. Paint applied after polishing.

Temper: Sherd, sand, sand and sherd; crushed dark rock can be found in combination with the other tempering materials.

Decoration: Mineral, possibly mineral-carbon, paint; dull black to glossy sub-glaze black, often oxidized to a reddish black-brown. Design elements include interlocking solid and hatchure square scrolls, interlocking solid and hatchured circular scrolls, steps, frets, triangles, scrolls, longitudinal or parallel hatchure, often thick framing lines on hatchure, same cross hatchure, dots, crosses, zigzags, chevrons, and sawtooth lines. Rim lines most often are solid.

Layout: Bands, zonal designs, more rectilinear than curvilinear layouts, star patterns on jar bases; exterior of bowls often have a single band of thick line rectilinear layout. Overall tightly spaced small design elements.

Comparisons: Tularosa Black-on-white differ from Reserve Black-on-white in several ways. The slip is thicker and often crackled in Tularosa Black-on-white. Tularosa Black-on-white hatching is usually longitudinal, i.e., parallel or almost parallel to the framing lines, while the Reserve Black-on-white hatching intersects the framing lines at about a 45 degree angle. In Tularosa Black-on-white, the framing lines are heavier than the hatching, but in Reserve Black-on-white they are about the

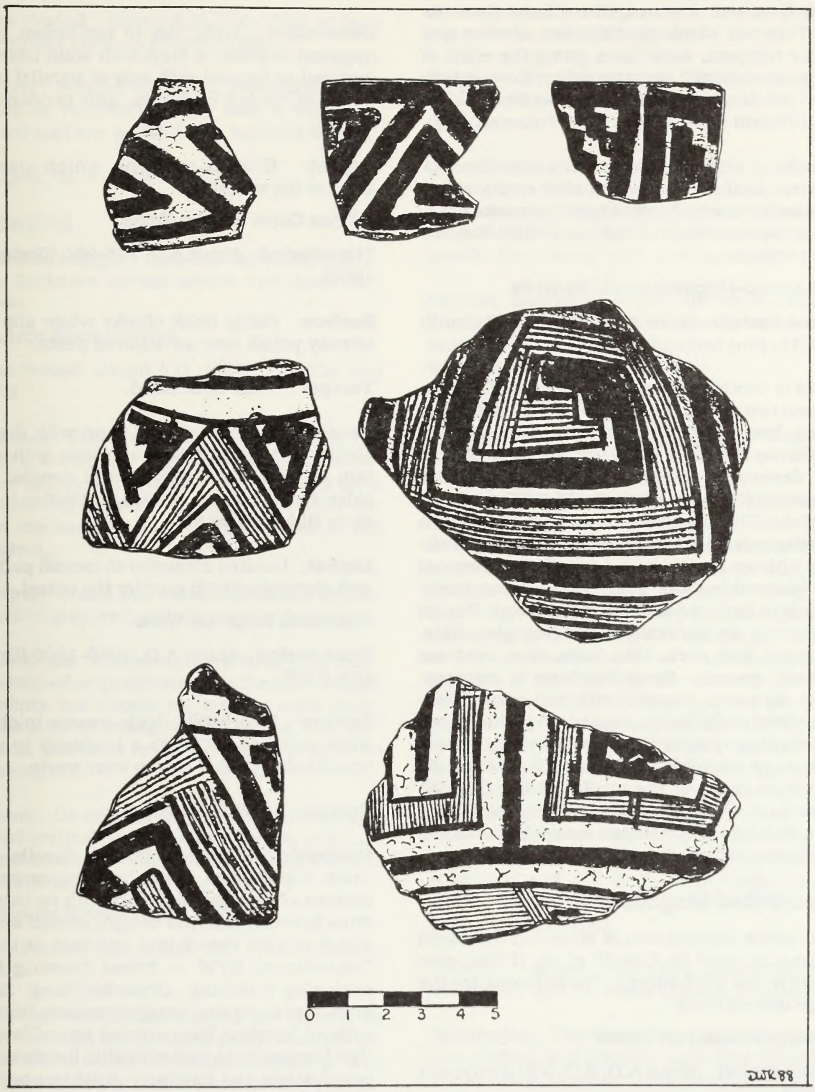


Figure 8.7: Tularosa Black-on-White: top row — Jar Rim Sherds; middle and bottom rows — Jar Body Sherds.

same. Hatching in Tularosa Black-on-white is also finer and closer together. Solid elements in Tularosa Black-on-white are smaller and more compact, sometimes giving the effect of negative designs; negative designs occur here but not in Reserve Black-on-white (Rinaldo and Bluhm 1956:180). Other Tularosa

Black-on-white characteristics are the star pattern bottom on jars, smaller empty space on the interior bottoms of bowls, occasional exterior decoration on bowls and effigy handles on pitchers.

➡Tularosa-Klagetoh Black-on-White

Time Period: About A. D. 1175-1250 (Smith 1971).

This is another type which is intermediate between two types. Klagetoh Black-on-white has long been regarded as a late variant of Tularosa Black-on-white with an intermixture of decorative elements and layout from Tusayan Black-on-white (Smith 1971:265:Fig. 147a). This category is characterized by a moderately heavy white slip with good polishing without much crackled surface. A mineral or mineral-carbon paint varies from dense black to dark reddish brown in color. Design elements are generally small triangles, frets, stepped line work, thin lines, dots, and are closely spaced. Cross hatchure is common. The layout is banded with the use of longitudinal corbeling as separation of the bands. This category is for those sherds that in a certain way resembled Tularosa Black-on-white yet have many of the attributes for Klagetoh Black-on-white. The category recognizes that a continum of attributes exists between the Tularosa and Reserve Black-on-white.

Decorated Mogollon Wares

The same descriptions of Mogollon decorated wares as used by Camilli et al. (1988) were used in the 1985 survey. The following are the type descriptions:

➡Mogollon Red-on-Brown

Time Period: About A.D. 775-950 (Breternitz 1966).

Surface: Unslipped, dimpled, polished surfaces ranging from light to dark tan.

Temper: Multi-lithic sand.

Decoration: Light red to red-brown paint (pigment possibly a clay) with solid triangles outlined or framed with sets of parallel lines, series of nested chevrons, and pendant triangles.

Layout: Overall patterns which usually quarter the vessel.

➡Three Circle Red-on-White

Time Period: About A.D. 775-950 (Breternitz 1966).

Surface: Fairly thick chalky white slip and streaky polish over an oxidized paste.

Temper: Multi-lithic sand.

Decoration: Red mineral paint with designs similar to Mogollon Red-on-brown with addition of bold, open spirals and scrolls; considerable variability in design, similar to Red Mesa Black-on-white.

Layout: Isolated elements in overall patterns and elements which quarter the vessel.

➡Mimbres Black-on-White

Time Period: About A.D. 1000-1200 (Breternitz 1966).

Surface: Moderately thick creamy to chalky white polished slip with a tendency to spall; smoothed, oxidized brown ware paste.

Temper: Multi-lithic sand.

Decoration: Boldface B/W -- Scrolls, bold thick wavy lines, some anthropomorphs; designs are pendant from rim with no banding lines between rim and design, overall system which divides vessel into quarters or thirds. Transitional B/W -- broad framing lines enclosing hatching, cross-hatching, zigzag lines, and chevrons; designs pendant from rim without banding lines around rim. Classic -- thin framing lines enclosing thin hatchure, opposed solids and hatchure, solid stepped and triangle elements; distinctive banded designs just below rim, with central figure such as zooamorphs or anthropomorphs.

➡San Francisco Red

Time Period: About A.D. 500-1300 or later (Breternitz 1966; Schroeder 1982).

Surface: Slipped with dark, blood-red to red-brown or reddish-tan clay over a bumpy or dented surface; polish has a lustrous sheen.

Temper: Multi-lithic sand.

Redwares

This ware category includes the White Mountain Redware series which are described below:

➡Puerco Black-on-Red

Time Period: About A.D. 1000-1200 (Carlson 1970).

Surfaces: Bowls are slipped on both the exterior and interior. Jars are slipped on the exterior and inside of necks. The slip is a deep maroon red in color. Surfaces generally exhibit medium to good polish. Paint is not polished.

Temper: Sherd and sand; inclusions appear as white, gray, red, or lack angular fragments.

Decoration: The paint is a iron or iron-carbon which often penetrates into the slip. Design elements are almost exclusively solid linear motifs such as triangles, broad lines, checkerboards, and ticks or dots. There is little or no hatching.

Layout: Usually banded and frequently sectioned vertically with checkerboards or parallel line dividers. Interlocked solid and hatched motifs do not occur.

➡Wingate Black-on-Red

Time Period: About A.D. 1000-1200 (Carlson 1970).

Surfaces: Bowls and dippers are slipped on both surfaces, and jars and pitchers on the exterior with a thick red to red maroon slip. The interiors of bowls and the exteriors of jars exhibit good polishing. Although polished, these surfaces are not well smoothed (Carlson 1970:13). Often the exteriors of bowls show poor, streaky polish marks. Crackle is present on many sherds. A few sherds display polishing over the painted designs.

Temper: Sherd and sand. The sherd temper can appear as white, buff, red, or black fragments.

Decorations: The paint is an iron and carbon mixture with sharp to fuzzy edges, and varies in color from a thin brownish stain to a deep black. Common elements include solid scrolls, frets, lines, dots, and hatchure.

Layout: Banded or overall; the motif consists almost exclusively of opposed solid and hatchure elements. The hatched unit is much wider than the solid unit.

➡Wingate Polychrome

Time Period: About A.D. 1125-1200 (Carlson 1970).

Surfaces: Bowl interiors are slipped with thick red or orange or in-between color slip. Bowl exteriors are treated in a number of manners: (1) there is no overall exterior slip, but designs in red slip paint are applied over the base white or orange brown paste, and the vessel is then polished over the design; (2) similar to the above, but in addition the areas between portions of the red slip are covered over the white or buff slip, which is applied after the red, and both are then polished; and (3) the entire exterior is slipped white or buff and designs in red slip are applied and polished (Carlson 1970:19). Jars are rare, but are slipped either in red or white and then decorated in black and then in red. Bowl interiors and jar exteriors are generally smoothed and polished, but remain uneven and bumpy, some surfaces are crackled, and some are weathered.

Temper: Sherd and sand; inclusions are white, red, buff, or black angular fragments.

Decoration: The black paint is either iron or iron-carbon and appears as a thin brown or dense black in color. This paint often is absorbed into the slip. Bowl interiors usually have solid elements interlocking with hatchure; however, solid line work is also common; bowl exterior designs include simple

bands, frets, scrolls, terraces, hands, or birds. Occasionally the exterior is corrugated and covered with a red slip.

Remarks: Wingate polychrome is easily distinguished from St. Johns Polychrome, since St. Johns Polychrome has an overall exterior red slip on which are painted white designs.

➡St. Johns Black-on-Red

Time Period: About A.D. 1175-1300 (Carlson 1970).

Summary description: The type is essentially St. Johns Polychrome with no white paint. The vessels are slipped red, orange-red, or orange. Slipped surfaces are generally smooth and polished with visible polishing marks. The paste is light colored and usually has sherd temper.

Bowls with walls incurved at the rim and globular bodied pitchers are the common shape. Decoration begins at the rim and is usually interlocked solid and hatchure elements. Scrolls and frets are common. The paint is a matte brown to dense semi-glaze black (Carlson 1970:31).

➡St. Johns Polychrome

Time Period: About A.D. 1175-1300 (Carlson 1970).

Surfaces: A thick red, red-orange, or orange slip is present on the interior and exterior of bowls, and the exterior of jars. Slipped surfaces are relatively smooth and well polished, often polishing marks are present. Pitting, crackle, and protruding inclusions are common surface features.

Temper: The paste is generally light colored and usually has sherd temper. The temper appears a white, black, red, or buff angular fragments.

Decoration: The black paint is a mineral-organic mixture which varies from a brown matte stain to a deep black matte or shiny glaze. The white paint is a soft, chalky, kaolin clay. Black decorations include scrolls, frets, hatched double terraces with solid and negative fillers, and multiple line bands are the most common motifs. Parallel hatchure is most common, but diagonal, cross, and zigzag hatchure also occurs. The exterior decoration is the white paint and is usually in a continuous pattern of linear motifs, hands, birds, and other single elements. The white is occasionally used to outline the bowl interior black designs.

Layout: Broad-banded or overall patterns on interior, exterior designs are in broad bands; on the bowl interiors, decoration goes to the rim and is usually executed in either interlocked solid and hatched motifs, or in concentric bands composed of interlocked or joined solid and hatched design units and negative fillers.

➡Springerville Polychrome

Time Period: About A.D. 1250-1300 (Carlson 1970).

Surfaces: A thick orange slip is applied to bowl interiors and exteriors, and to jar exteriors and neck interiors. Surfaces are well-smoothed with a good to high polish, but polishing marks are visible. Some crazing or crackle is present.

Temper: Sherd temper is indicated by red, white, or black angular fragment inclusions.

Decoration: The dark paint is a mineral-carbon mixture and ranges from a dull brown or black which penetrates the slip to a matte glaze. The white paint is chalky kaolin clay and is often fugitive. Black design motifs include solid encircling band, opposed half terraces, chevrons of stepped squares, open meander, wavy line, solid triangles opposed, negative zigzags, and lines with flagged ends. White exterior paint decoration are usually continuous linear motifs. Black exterior decorations are simple linear designs.

Layout: Interior designs can be banded or overall, while the exterior is banded. Design layout is similar to St. Johns Polychrome, but the exterior elements are more finely executed.

Remarks: Springerville Polychrome is differentiated from St. Johns Polychrome by the occurrence of black lines or bars in addition to the white decoration of the exteriors of otherwise typical St. Johns Polychrome bowls. It

more often has an orange slip while St. Johns can have a red, red-orange, or orange slip (Carlson 1970:47).

➡ Pinedale Black-on-Red

Time Period: About A.D. 1275-1325 (Carlson 1970).

Surfaces: Bowl interiors and exteriors, and jar exteriors and neck interiors are slipped with a thick red slip. The vessel surfaces are smooth and well polished, often with visible narrow polishing marks. The slip can be dull and powdery or sometimes crazed or crackled.

Temper: Sherd and quartz sand; sherd inclusions are white, red, or black angular fragments.

Decoration: Paint is a mineral-organic mixture which tends to be dark brown to black and grades from a stain to a matte or shiny glaze. Design elements and motifs include quadruped tailed keys, hourglasses with fringed ends, crescents, frets, triangles, rectangles of parallel hatching with dotted edge, "S" frets, stylized hands, diamonds with a negative cross, rectangles with stepped line fillers, barbed squares with internal crosses, and diamonds with internal half terraces. Decoration occurs on bowl interiors and exteriors, jar bodies, jar necks, jar rims, and effigy exteriors.

Layout: Bowl interior decoration begins at the rim and either covers the entire bowl or leaves the center open. Interlocked solid and hatched elements are common. The brush work is in bold, broad units. Hatching is almost always parallel, often with appended dots. Exterior motifs are arranged in unit patterns which are repeated two to four times; mostly rectilinear geometric forms, but life forms do occur (Carlson 1970:57).

Remarks: Pinedale Black-on-red is seen to be an outgrowth of the earlier St. Johns types. It can be distinguished by the exterior black designs on bowls, and by its bold brush work and layout (see Figure 8.2).

➡ Pinedale Polychrome

Time Period: About A.D. 1275-1325 (Carlson 1970).

Surfaces: Bowl interiors and exteriors, and jar exteriors and neck interiors are slipped in a thick red, sometimes orange slip. The slip may be dull and powdery, but usually has a high polish. Inclusions often extend through the paste.

Temper: Sherd and crushed rock which appear as red, black, or white angular fragments.

Decoration: Black is a mineral-organic pigment, high in copper content, which varies from a thick matte black to a dull black glaze. Often the black has worn or flaked away leaving only the underlaying brown organic binder stain. The white pigment is a kaolin clay. Interior black decorative elements include broad line work, parallel hatchure, frets, triangles, squiggle line fillers, squares, and rectangles. Exterior decorative elements are either in black or black and white, and include zigzags, dots, squares, triangles, steps, wide lines, lightning bands, and checkerboards. The brushwork is very bold in closely massed or in broad units.

Layout: Interior bowl decoration begins at the rim, and leaves the center open or covered. Layout is usually interlocked solid and hatched design units in black which is often outlined in white. Exterior bowl designs are either black or black and white. These occur usually in units, but some are continuous. The jar layouts are black motifs outlined in white on a red background.

Remarks: Pindale Polychrome can be distinguished from other White Mountain Redwares by a correlation of the use of a black matte or glaze paint, the use of both black and white on any field, and the use of unit patterns on bowl exteriors (Carlson 1970:53).

➡ Four Mile Polychrome

Time Period: About A.D. 1325-1400 (Carlson 1970).

Surfaces: Bowls are slipped red on both the interior and exterior surfaces. Jars usually have a red slipped body and a white slipped neck and upper shoulders. Small jars are slipped red over the entire exterior while the neck interior is white slipped. The vessels are well smoothed and nicely polished. Crackle or

crazing occurs sometimes, and the white slip is often powdery.

Temper: The paste is buff, white, or gray, occasionally red-brown with specks of golden mica. Inclusions are small white, red, or black angular fragments, and rounded quartz grains. Most of the temper is sherd, white angular tuff, and golden mica.

Decorations: Paints are a dark greenish-black mineral-rich glaze, and a chalky white kaolin. The red slip is from a yellow limonite. Black designs, outlined by white on a red background, occur on both bowl surfaces and on jar exteriors. Design elements on bowl exteriors are composed soley of fine white lines in various motifs, black frets, keys, barbed lines, or terraced figures, or combinations of the black elements with fine white lines. Exterior designs are elaborate. Interior designs are similar to the exterior, but focus on the center of the bowl. Usually there is a broad red band which separates the center design area from the white outlined black rim band. The interior motifs are large central figures, sectors with open areas, circles with internal filler designs, or external appendages. Designs are black, outlined in white. Scrolls with appendages, bird figures, and geometric units are common.

Layout: Large overall designs, very often with large open areas. Layouts are either symmetrical or asymmetrical.

Remarks: Four Mile Polychrome is distinguished by its brown color paste with golden mica and white angular tuff temper.

Brownwares (Figure 8.8)

Brownwares observed in the field studies were found generally to be small in sherd size and troublesome to categorize into a named type. As noted by Fowler (in Hogan et al. 1985:10), "With such small sherds, pieces from a single vessel could be classified as Alma Plain, Reserve Indented Corrugated, or Reserve Plain Corrugated, depending on the part of the vessel from which they come."

The brownwares studied in SACA 85, as in other studies (Camilli et al. 1988; Hogan et al. 1985), were classified on observed surface attributes rather than being placed in named type categories. A few brownware sherds were large enough to be assigned to the established names types.

In general, the brownwares have sand temper, fine to medium pastes, are constructed by coiling and scraping, and fired in an oxidizing atmosphere. Various surface treatments such as incising, polishing, smudging, scoring, corrugating, and neck or shoulder banding are present in these characteristic ceramics of the Mogollon Culture (see Rinaldo and Bluhm 1956:154).

The observed brownwares were separated by various surface textures as described below:

➡ Plain Brown

Time Period: May begin as early as A.D. 200 and extend beyond A.D. 1300.

This is an unpolished or poorly polished brownware. This type can occur either as jars or bowls. The surfaces are somewhat bumpy and may exhibit smoothing efforts or very light polishing. This most likely represents the type Alma Plain (Martin and Rinaldo 1950a, 1950b). Other plain brown sherds display very rough surfaces and may be nearer to Alma Rough (Martin and Rinaldo 1947).

➡ Plain Polished

Time Period: Begins about A.D. 450 and extends beyond A.D. 1300.

This is an untextured brownware, but which exhibits smoothing; it is characterized as being well polished. Both jars and bowl forms were found. Sherds of this category may represent untextured plainware vessels or untextured portions of textured vessels.

➡ Neckbanded (Brownware Neckbanded)

Time Period: About A.D. 650-925.

Occasionally, sherds of brown neckbanded vessels were found. In general, the sherds would exhibit either wide or narrow bands. The wide bands were about 10-15 mm in width with most being about 10-12 mm. Often the coils were polished. This wide band variety most likely correlates with Alma Neck Banded

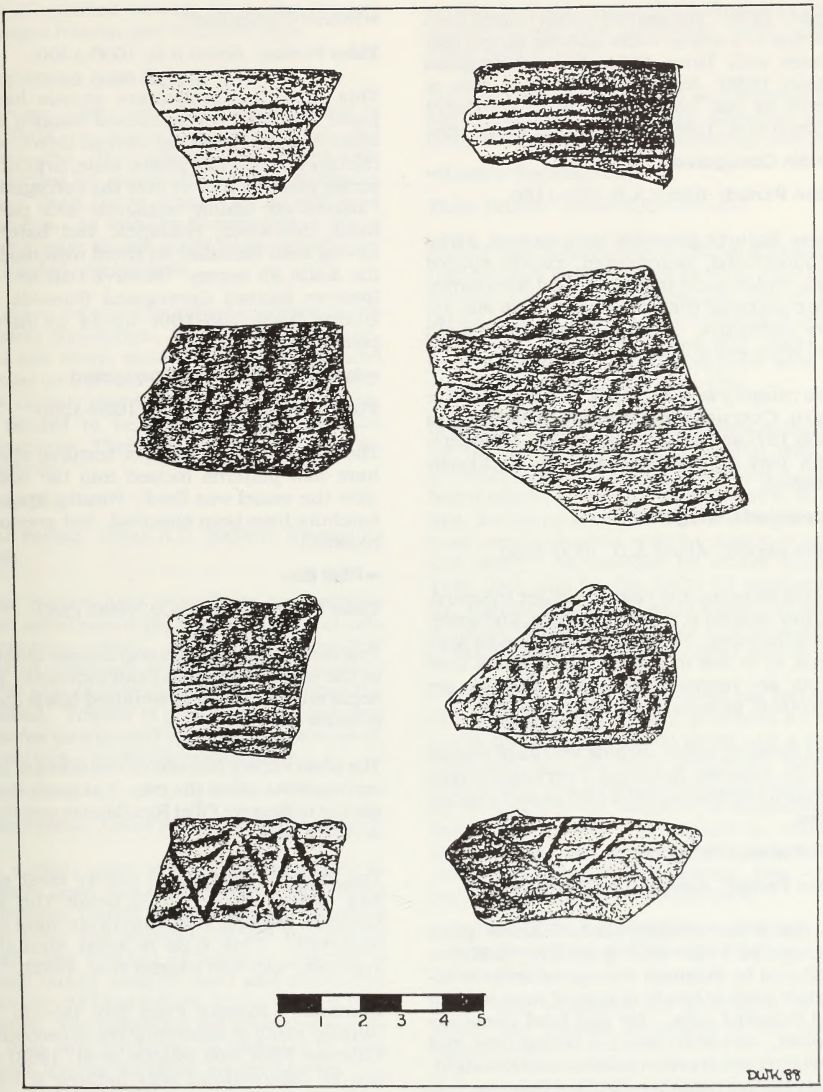


Figure 8.8: Undecorated textured types, either brownware or grayware: top row — Plain Corrugated; second row — Indented Corrugated; third row — Patterned Corrugated; bottom row — Incised Corrugated

(Hawly 1936). The narrow bands ranged from 1.5 mm to 3 mm in width and the variety correlates with Three Circle Neck Corrugated (Haury 1936). In appearance, these coils or bands or not overlapping as in clapboard (Camilli et al. 1988). There are jar forms only.

➡ Plain Corrugated

Time Period: About A.D. 950-1150.

These features generally have narrow, plain, unobliterated, unindented, evenly spaced coils, which occur in both jar and bowl forms. The coils range from 2-6 mm in width and are very distinctive. Bowl interiors are smooth and often well polished.

This category would include sherds of Reserve Plain Corrugated (Rinaldo and Bluhm 1956:157) as well as other types. Bowl interiors may be smudged as well as heavily polished.

➡ Indented Corrugated

Time Period: About A.D. 1000-1350.

In this category, the coils are finger indented, narrow, spaced at regular intervals, and sometimes flattened. The corrugations can be scalloped, or in fine multiple folds. Jar and bowl forms are represented. Bowl interiors are smoothed, polished, and often smudged.

This category would include sherds of vessels of the Reserve Indented Corrugated type (Rinaldo and Bluhm 1956:159) as well as other types.

➡ Patterned Corrugated

Time Period: About A.D. 1025-1350.

Sherds of this category exhibit narrow, plain corrugated coils with geometric patterns produced by indented corrugated areas or alternate rows or bands of several rows of plain and indented coils. Jar and bowl forms are present. Jars often have out-flaring rims, and bowl interiors are often polished and smudged. This category contains sherds of Tularosa Patterned Corrugated (Rinaldo and Bluhm 1956:169) vessels. Patterns identified were banded, diamonds, triangles, chevron, and rectilinear patterns.

➡ Tooled Corrugated

Time Period: About A.D. 1000-1200.

This describes brownware sherds having plain, indented, or patterned banded coils which have been worked with an object, while the clay was still in a plastic state, to punch or scribe patterns into or over the corrugations. Patterns are mainly rectilinear with parallel lines, diamonds, triangles, and hatchure having been identified on sherd material from the SACA 85 survey. Reserve Punched and Reserve Incised Corrugated (Rinaldo and Bluhm 1956:163-166) would be in this category.

➡ Incised or Engraved Corrugated

Time Period: About A.D. 1000-1200.

These brownwares, plain or textured sherds, have had patterns incised into the surface after the vessel was fired. Parallel lines and hatchure have been observed. Not previously recorded.

➡ Fillet Rim

Time Period: About A.D. 1000-1250.

Two varieties of fillet rim sherds were observed in the survey area, plain and indented. Both occur on the exterior of smudged bowls directly below the rim.

The plain variety has one or two fillets of plain corrugations below the rim. It actually is or is similar to Reserve Fillet Rim (Martin and Rinaldo 1950:360).

The indented corrugated variety most often has two or three fillets below the rim. However, multiple fillets, up to six, have been observed. This type is most similar to Tularosa Fillet Rim (Martin et al. 1952).

Remarks: Reserve Fillet Rim (Martin and Rinaldo 1950) is apparently the antecedent of Tularosa Fillet Rim (Martin et al. 1952) and can be differentiated only because it has a plain corrugated or banded fillet rather than the indented corrugated fillet of the later type. Both types are on bowls whose exteriors are plain polished brown like Alma Plain and inte-

riors of polished smudge black like Reserve Smudged (Martin and Rinaldo 1950).

Graywares (see Figure 8.8)

Grayware utility ceramics were classified in the field in a similar manner as the brownwares. The majority of graywares were categorized on observable surface attributes rather than being placed in named type categories. As with the brownwares, a few of the grayware sherds could be assigned to an established, named type.

The graywares were found to be tempered with a variety of materials. The majority had sand, sand and sherd, sand and rock, or sand and angular quartz rock temper. A few were noted to be entirely sherd tempered. Grayware pastes tended to be much coarser than the brownwares. They were fired in a reducing atmosphere.

➡Lino Gray

Time Period: About A.D. 500-875 (Breternitz 1966).

These feature light to medium gray surface color, sometimes quite dark with firing clouds or cooking spots. Surfaces are roughly finished, although scraped and occasionally lightly smoothed in spots, but never slipped or polished. Temper is abundant, medium-fine to coarse quartz sand which is conspicuous on the surface. Jar forms predominate.

➡Plain Gray

Time Period: About A.D. 500-1350 and later.

The surface color varies from light gray to medium gray; darker areas result from firing or cooking clouds. Surfaces are smoother than Lino, but occasionally are moderately rough, and cracked or crazed. Temper is mainly quartz sand or sand and sherd, but some sherds have a dark, finely crushed rock additive. The majority of the plain gray sherds are from jars, but some, as indicated by their smooth interior surfaces, are from bowls.

Fowler (in Hogan et al. 1985:104) suggests that most of the plain gray ceramics, from an area in the center of SACA, are probably from neckbanded or neckcorrugated vessels. Other studies in nearby areas also suggest this possibility (Doyel and Debowski 1980; Gratz 1980; Kayser 1975).

The plain gray materials can be distinguished from Lino materials on their smoother surfaces and general lack of protruding temper.

➡Kana'a Neckbanded

Time Period: About A.D. 750-950.

Kana'a Neckbanded (Colton 1955a) is a named type category characterized by wide, plain corrugated coils located below the rim or jar necks. The remainder of the vessel is plain surfaced. This category is a style which is recognized throughout the Anasazi area in various forms (Marshall 1980:178).

In SACA, the neck sherds had fairly wide center-flattened, round-edged, coils which, generally, did not overlap to produce a clapboard effect. Coil width varied from 4- to 14 mm, averaging around 10 mm. Temper was most commonly sand, angular quartz, or sand and sherd. As recorded by others (Fowler 1985:104), and for the SACA 85 specimens, the angular quartz and sand fragments often protrude through the surface and are similar to many of the plain gray category sherds.

A few of the wide-coil neck sherds had portions of overlapping bands which produced a clapboard effect on part of the sherd and a non-clapboard look on other portions. Several sherds had coils which had been so smoothed as to produce an obliterated appearance. Other sherds were very angular in outline. Some were completely flattened but not obliterated nor clapboard looking. One neckbanded sherd had very round coils.

➡Banded Wide, Banded Narrow, Banded Wide Smoothed, and Banded Narrow Smoothed

These four categories are descriptive of the width and surface treatment of the neckbanded coils.

Banded Wide: Neckbanded coils which in width ranged from 8-14 mm.

Banded Narrow: Neckbanded coils which ranged from 4-7 mm in width.

Banded Wide Smoothed and Banded Narrow Smoothed: Here the coils are not distinct, having been smoothed together. However, the centers of each coil are still very apparent.

➡ Clapboard Corrugated

Time Period: About A.D. 850-1000.

The sherds in this category have plain unindented coils which overlap each other. Generally, the coils are narrower, more regular, and much more flattened than the neckbanded coils.

Coil widths of most specimens are 5-6 mm with the range being 4-9 mm. Observed tempering materials include sand and sherd, sand, coarse sand and sherd, quartz angular particles and sherd, and crushed dark rock.

The clapboard corrugated type may be present on only neckbanded vessels, but no specimens illustrating this style were observed. However, several specimens were observed which suggested that the type occurs on shoulder or partial corrugated and full corrugated vessels.

➡ Plain Corrugated

Time Period: About A.D. 950-1350.

This category includes all the varieties of corrugated graywares in which the coils are unindented, unflattened, unobliterated, nonclapboard, or not neckbanded. Coils usually stand out from the surface, very rarely are they completely smoothed or flattened. Often the coils are so pressed as to leave a pronounced rise at the base. Coils vary from narrow to wide with most being in the narrow 3-5 mm range. The coils, generally, are evenly spaced corrugations which on a few sherds appear to spiral around the vessel while on other sherds appear to be concentric rings.

Sand and sherd is the most common temper; a few sherds seem to be entirely sand tempered, others entirely sherd temper, and still others of sand and fragments of angular quartz. A few sherds were tempered with finely ground dark rock and fine sand. Most sherds were from jars, a few from pitchers, but none were identified as being from bowls. Lugs of the strap variety were found on plain corrugated sherds.

Several plain corrugated sherds exhibited linear designs which had been tooled into the corrugations while the clay was still in a plastic state.

It is actually possible that some sherds in this category are from indented corrugated vessels with designs produced from plain corrugated areas. These appear similar to patterned corrugated brownware.

➡ Indented Corrugated

Time Period: About A.D. 950-1350.

This category includes all sherds on which the coils were indented by finger, fingernail, or tool. It also includes all sherds which display a combination of unindented and indented coils.

Indented corrugated sherds are the most common category found on ceramic-bearing sites in the study area. Fowler (1985:105), remarking on the ceramics found in a survey area in the center of SACA wrote, "This category is by far the most common on the sites . . ., as it is on sites from this time period in many areas of the Anasazi region."

The only vessel form identified during this survey was that of the necked, wide-mouth jar. Rims were most often of the straight wall flaring rim, and tapered outflaring types. Other types of rims were present, but no detailed study of rim form was made during either the 1984 or 1985 field sessions.

Most sherds exhibited only overall indented corrugations, but a few had patterned zoning of alternating bands of indented and unindented corrugations. Most sherds were finger indented with the indentations offset forming a diagonal pattern.

A very few sherds exhibit vertically positioned indentations. Finger and nail impressed indentations were present on only a few sherds (see Fowler 1985:105).

Overall, indented corrugated sherds show a great variety of surface treatment.

Most sherds were tempered with a sand and sherd combination, some sherds were best described as sherd tempered, others as sand only temper, a few as fine sand and coarse angular quartz, and a very few with a finely ground dark rock and sand.

Coil width varied from 2-10 mm, with most coils being in the 3-5 mm range. Width was consistent on most sherds. However, a few sherds had coils which individually varied greatly in width.

Most of the sherds were entirely corrugated on their exterior surfaces. However, this does not mean that the entire vessels were corrugated over their exterior surfaces. A few sherds contained several rows of corrugations and portions of plain surface, which suggests that the vessels were corrugated only on a portion of their exterior surface.

➡Obliterated Corrugated

Time Period: About A.D. 1250-?

This grayware category includes those few sherds on which the coils were rubbed, smeared, or otherwise partially obliterated.

Of the few sherds studied, the prevalent temper was sand and sherd. One sherd featured smeared obliterated coils which contained profuse, medium andesitic rock fragments. Another was tempered only with coarse, ground sherds.

Little else can be said of this category other than it was present in very small amounts within SACA.

Minor Wares

The following wares and types are present within SACA in very small amounts:

➡Unslipped Black-on-Gray

Time Period: Uncertain.

A few sherds of an unslipped black-on-gray ceramic were found at several sites. The temper is similar to other whiteware sherds, i.e., sand, sand and sherd, quartz sand, or coarse quartz fragments and fine sand. Recorded designs include hatchure, solid elements, and hatchure and solid elements (see Fowler 1985; Rugge 1985).

➡Roosevelt Redwares

Pinto Polychrome
Gila Polychrome
Tonto Polychrome

Time Period: About A.D. 1200-1450 (Marshall 1973).

Surface Finish: Bowl interiors, well-smoothed and coated all over with a thick creamy-white slip which is usually crazed; slightly gritty and never polished. Bowl exteriors coated with a thin red slip usually well polished with horizontal striations evident. Jar exteriors well smoothed, coated with white slip on upper vessel body and with thin red slip on lower vessel body, usually gritty, crazed.

Temper: Moderately abundant fine waterworn sand.

Pigments: Black carbon pigment applied over white slipped areas. Red portions are clay slip. White is a kaolin clay.

Decorations: Decorations in black carbon pigment over white slipped surfaces. Bowl interiors are usually completely covered in an overall layout, and less frequently, horizontal band leaving open circle in bottom. Decoration never carries to rim. The rim is usually plain and, upon occasion, ticked. Bowl exteriors are usually unpainted but may be decorated in black if white slip extends to outside surface. Jars frequently have a broken horizontal black stripe encircling the shoulder and the body, dividing the white slipped area into two zones. Rarely a single horizontal stripe just below the rim leaves only one decorative zone about the neck. Solid elements are most common with tapering triangles, scrolls with scalloped edges, steps, keys and small mazes present.

Comparisons: Gila Polychrome is similar to Pinto Polychrome except Pinto does not have the broken line. The Pinto decorations may also extend to the rim. Similar to Tonto except Tonto employed red as integral part of design on one or both surfaces. The types may be distinguished, however, on the basis of difference

in design. Principally, the presence or absence of the broken line and the presence or absence of red as an integral part of the design (Marshall 1973).

➡ Rio Grande Glaze Wares:

Glaze I Red (Marshall 1973; Snow 1966).

Agua Fria Glaze on Red Type Cluster

Temporality: Rio Grande Glaze I Red. A.D. 1300-1425 (Breternitz 1966:91).

Paste: Brown with dark core. At Pottery Mound (pueblo ruin on lower Rio Puerco), red paste with dark core.

Temper: Dark crushed stone (basalt). Occasionally crushed sherds.

Surface Finish: Dark, smooth, orange-red or maroon-red, thin slip on surfaces of bowls. Slips are very thin. Slip and paste do not contrast.

Paint: Black glaze paint. Glaze is thin and does not run, although it may bead slightly. Overfired glaze is dull.

Decorations: Bowls decorated with paneled band design on upper interior, with small design occasionally in center. Jars decorated with wide paneled band design between two heavy framing lines on upper body. Neck plain.

Elements: Oblique lines, stemmed keys, birds, dotted checkerboards.

Vessel Forms: Bowls and jars. Narrow to wide (5-10 mm) design band on bowl interior below rim; jar exteriors have narrow or broad design panels with thin framing lines between shoulder and neck; jars and bowls may have paired oblique or vertical slashes, or crosses repeated on opposite sides below the

rim; layouts may be based on pendant triangles or rectangles; elements include lines, hatching, cross-hatching, stepped lines, dots, ticks, checkerboard, dotted eyes, key figures, birds, and rarely, anthropomorphs.

Glaze I Red (Marshall 1973; Snow 1966)

Varient Rayo Glaze on Red

This is an olla type of Agua Fria Glaze on Red with distinctive flaring rim, retained from those of the Chupadero Black-on-white jars; it is to be distinguished from the straight necked jars of the Pecos series (Hawley 1936:82).

Glaze I Red (Marshall 1973; Snow 1966)

Varient Arenal Glaze Polychrome

This is the same as Agua Fria except that a thin line of white decoration is evident on the exterior surface in kaolin white paint. This form is analogous to Heshotauthla Polychrome. Other variants have a white slip over the entire exterior surface. This latter has no parallel among the Zuni series.

Vessel Forms: Bowls.

Glaze I Yellow (Snow 1966)

Cieneguilla Glaze-on-yellow, Sanchez Glaze-on-yellow, others

Temporality: Pueblo IV, Rio Grande Classic; Glaze Group: A.

Time: A.D. 1350-1425.

Paste: Gray with occasional red-brown margins; fine to medium grain texture.

Temper: Crushed rock.

Surface: Bowls and jars slipped and polished both surfaces (except jar neck interior below neck base); never lustrous.

Both surfaces all forms slipped (except jar bases and, occasionally, bowl lower exterior), yellowish to creamy-white to gray-white.

Forms: Bowls, jars, miniatures, and eccentric forms.

Rims: All forms direct, parallel sided, lip slightly rounded to flat.

Decoration: Paint; dark brown to black vitreous to matte glaze, never runny; beading is rare.

Designs: Similar on bowls and jars to Agua Fria G/R; overall designs on bowl interior bottom are more frequent; elements duplicate Agua Fria G/R.

Remarks: Like Pinnawa Glaze-on-white in the Zuni sequence, this type is the first to appear locally with an overall white, or yellowish slip, as opposed to the earlier overall red, or red and white slipped types.

According to the Woodburys (1966:318), "many decorative motifs of Cieneguilla Glaze-on-yellow, as illustrated by Kidder and Shepard (1936:3-71) can be duplicated in Pinnawa Glaze-on-white, but in certain details the two types are dissimilar . . . the Zuni type having a larger proportion of jars, more varied design layouts on bowl interiors, and often fairly elaborately decorated bowl exteriors."

Types which follow Pinnawa G/W and Kechipawan Polychrome in the Zuni area mark the temporary cessation of glaze-paint in the upper Little Colorado, in contrast to the Rio Grande situation where glaze decoration becomes increasingly elaborated.

Acoma glaze development continued without interruption, with "Alpha Beta" Polychrome and Glaze-on-white considered varieties of Pinnawa and Kechipawan in the Zuni area (Dittert and Ruppe 1965:7).

It has been noted that Cieneguilla G/Y may be a copy of Jeddito B/Y, and that the latter has a glaze-paint variant. It has also been suggested that Cieneguilla is a development out of the local Galisteo B/W, but this seems a remote possibility in view of paste and surface differences. Cieneguilla G/Y dominates the late Glaze A period at Pottery Mound, far removed from the Galisteo, but close to SACA.

Zuni Wares

➡Heshotauthla Polychrome

Time Period: About A.D. 1300-1375 (Breternitz 1966).

Paste: Texture fine. Slightly crumbling. Fired in oxidizing atmosphere with core colors of gray, and pinkish to buff.

Temper: Angular fragments (sherds) greatly variable in size. Grayish in reduced, light yellowish or tan in oxidized areas. No quartz sand.

Surface: Exterior and interior of bowl surfaces heavily slipped; slip is highly polished and occasionally flakes off.

Pigments: Dark glaze, some copper and lead content. White is presumably kaolin.

Decorations: Black interior, white exterior. Interior black decorations consist of narrow and wide lines. Usually one or more stripes just below the rim. Carelessly executed; paint usually ran, draftsmanship careless. Exterior white decorations consist of fine narrow and wide lines, usually one to three lines just below the rim; diagonal lines, open diamonds, or stepped panels.

➡Heshotauthla Black-on-Red

Time Period: About A.D. 1300-1375.

Distinguishing Characteristics: Red slip, black or greenish glaze decoration, usually gray paste. The same as Heshotauthla Polychrome but lacking white for the decoration.

Comparisons: Very similar to Heshotauthla Polychrome but without any white on bowl exteriors. Similar to Pinedale Black-on-red, but paste of Heshotauthla Black-on-red is darker, surface not powdery or crazed; also rarely decorated on exterior of bowls.

➡Kechipawan Polychrome

Time Period: Between A.D. 1375-1475.

Distinguishing Characteristics: White slipped, with decoration in matte red and black to greenish glaze, the glaze paint well controlled.

Temper and Paste: The paste is generally medium to light gray, becoming lighter toward surface; sometimes a gray core becoming tan toward surface; sometimes pinkish-tan

throughout. Carbon streak often present. Temper is of medium, or occasionally fine texture; light colored angular fragments, occasionally with larger, rounded particles.

Surface: Bowl interiors and exteriors, and jar exteriors, always slipped, and medium or well smoothed; usually well polished, with polishing marks often slightly visible. Slip is occasionally crackled, and occasionally flakes off so that pinkish color of paste shows through. Jar interiors are smoothed but not slipped or polished. Fire clouds are very rare.

Decoration: The surfaces of bowl interiors and exteriors, and jar exteriors, usually clear white or very pale gray; sometimes creamy-white, rarely yellowish-white or pale buff. Jar interiors light pinkish buff. Surface color is generally close to the white slips of Pinnawa Glaze-on-white, Pinnawa Red-on-white, and Kwakina Polychrome, but, in a few vessels, resembles the lighter shades of Matsaki Polychrome.

The matte red paint is usually slightly pinkish or purplish, rarely brownish. It is opaque but sometimes wears or flakes off. Glaze ranges from dense black to bright green, usually evenly applied with little running and only occasional spreading.

The bowl interior has main design, in broad band below rim, all over, or occasionally centered in bottom; abundant use of geometric elements, usually solid, occasionally hatched or checkerboard; occasional use of life forms, including stylized birds, isolated feathers, animals, or, rarely, crude human figures. Bowl exterior usually has simple encircling decoration without bordering lines, consisting of oblique meander or connected oblique lines; occasional isolated, repeated exterior elements, or line with pendent triangles or keys; usually both red and glaze used on bowl exterior, rarely glaze only.

On jar exteriors the upper body, sometimes including lower part of neck, is encircled by broad band of decoration, similar to band layout on bowl interiors. Red paint may fill solids, form subsidiary complete elements, or be used for single or grouped narrow parallel lines, but is usually used less extensively than is glaze. On both bowls and jars the designs are planned and executed with great skill and elegance.

Comparisons: Similar in many ways to Pinnawa Glaze-on-white and to Pinnawa Red-on-white, with nearly the same surface finish, paints, and vessel shapes, and with resemblances in some decorative treatments. Designs on Kechipawan Polychrome are more complex than on Heshotauthla Polychrome, but employ many of the same elements; in addition, elements that appear commonly on Matsaki Polychrome occasionally appear on Kechipawan Polychrome, suggesting at least a brief period of time during which both were being made (Woodbury and Woodbury 1966:243).

Remarks: This marks the end of a series of Zuni glaze decorated pottery types that began with Heshotauthla Polychrome and within two centuries or less changed from all-red slips through part-red and part-white slips to all-white slips, a change that was taking place in other pottery types in the Southwest.

➡ Kwakina Polychrome

Time Period: 1325 to 1400.

Distinguishing Characteristics: Bowls are red outside, and slipped white on all or part of inside. Decorated in black glaze paint on inside, in black glaze and white outside.

Tempers: Angular, light-colored particles; medium texture or occasionally a mixture of medium and fine texture.

Wall Thickness: Usually about 0.5 cm, rarely more than 0.6 cm, or less than 0.4 cm.

Surface Color: Bowl interiors, slipped creamy white or yellowish white, occasionally grayish white (from overfiring); occasionally zone of red on inner rim, 0.2-1.5 cm wide; bowl interior rarely slipped white only around inner wall, with central area left red.

Bowl exteriors, slipped red or orange-red, sometimes brownish or grayish from firing defects; rarely, a white zone beginning near rim and extending down 5-6 cm, with red below.

Jar exteriors, zone of white around otherwise red body, or around neck. Jar interiors unslipped light gray to buff.

Fireclouds common on bowl exteriors.

Surface Finish: Bowl interiors well smoothed; slip medium to well polished, with tool marks often visible. Sometimes slip thin and streaked, or flaked off, pitted, or crackled. At rim either white or red slip may be applied last, with under color showing through.

Bowl and jar exteriors moderately to well smoothed; slip poorly to moderately polished, sometimes streaked, often crackled.

Jar interiors moderately smoothed, unpolished.

Shapes: Bowls common — slightly incurving upper wall, profile a smooth curve from rim to rim. Jars rare — globular body with straight neck.

Rims of bowls usually slightly to sharply levelled inward, sometimes thickened. Jar rims vertical with rounded lip.

Decoration: Bowl interiors, band 5-10 cm wide decorated, beginning near rim, leaving center plain; rarely, design fills entire interior. Decorative band often divided obliquely into panels or filled with elaborately decorated large interlocking triangular zones. Design elements include groups of four to seven narrow parallel lines, stepped lines, checkerboard with or without dots in white squares, pendent triangles, interlocking keys, dots pendent from line, and negative circles in solid black triangles; curvilinear elements and cross-hatching both rare.

Bowl exteriors, decorated zone around rim narrower than on interior usually of glaze and narrow white line units repeated four times; or may be continuous band of narrow white line decoration with slight or no use of glaze. Design elements, stepped lines in rectangular or triangular panels, or in lozenges or paired triangles; occasionally oblique stripe of glaze with white lozenges containing glaze dots and with white borders; occasionally continuous white line forming zigzag, oblique meanders, or repeated interlocking keys; occasionally stylized bear paw in white or in white-bordered glaze; rarely, white stripe with glaze spots and glaze border.

Jar exteriors, probably similar to decoration on bowl interiors.

Paint Glaze: Ranges from dense black or bright green to streaky brown or black, sometimes heavy matte black, often bubbly; single brush strokes sometimes begin dull and streaky and end with blob of heavy glaze. White, thick, often flaked or crackled; great variation in width and density of single lines.

Comparisons: There are close resemblances to Heshotauthla Polychrome in vessel shapes and in both interior and exterior decoration of bowls, although of course Kwakina Polychrome has the added white slip of bowl interiors (and very rarely on the upper part of bowl exteriors). Carlson (1961: 28-9) has included both of these types within his Heshotauthla Style, thus distinguishing them from the antecedent St. Johns Style. We are in agreement with this view of stylistic and historical relationships, although Carlson proposes dates that differ slightly (and probably unimportantly) from those suggested here.

Remarks: Kwakina Polychrome marks the introduction of white slips on redware in the Cibola region, thus paralleling the development of Showlow Polychrome nearby to the west. To the south, the creation of Gila Polychrome marks a similar development, resulting in bowls with white-slipped interiors and red exteriors, although not decorated in glaze paint. There can be little doubt that these stylistic developments are related and partly contemporaneous.

➡ Matsaki Polychrome

Time Period: About A.D. 1475 to late 1600s.

Distinguishing Characteristics: Matte paint pottery. A somewhat rough or crazed surface, crumbly paste, slipped with buff (sometimes orange, cream, or yellow-brown), and decorated in complex geometric and feather designs, with dark brown or black and reddish-brown paint. Shapes and decoration resemble Sikyatki Polychrome, but surface

finish and brush work are much poorer and paste is entirely different.

Temper: Temper is of medium texture, often with some coarse particles also, and occasionally with some fine particles. The temper is of small angular particles, light gray except when darkened in reduced-fired areas, and there are occasional rounded particles of quartz.

Surfaces: Bowl interiors and exteriors, and jar exteriors slipped orange-buff, fairly uniformly on any single vessel, fire clouding. Slips of some vessels are cream and of many others orange-tan, orange, and brown. Jar interiors buff, orange, or light gray. Bowl interiors and exteriors, and jar exteriors moderately smoothed, slipped, and poorly polished; tool marks are often visible, with striations that suggest use of a stick rather than a stone. Suface is often crazed, and temper particles at surface often cause pitting. Exterior bases of vessels have noticeably poorer finish. Jar interiors are finished like exteriors on the easily accessible portions of necks; the rest of interiors are poorly smoothed, unslipped, unpolished. Fire clouds are common.

Decoration: The black paint is used for borders of red areas and for broad stripes and some solid elements; varies from dense brownish-black to streaky or very faded chocolate brown. Red, usually brownish, sometimes light and streaky, sometimes dark and hardly to be distinguished from brownish-black. White, occasionally used sparingly to fill small areas of design, thin, unevenly applied, with slip-color showing through. Brush work of all paints is sometimes neat but usually careless; both black and red are occasionally applied in dry-brush, or stippled technique. Bowls are decorated on the interior, sometimes with a band of panels carrying geometric and/or stylized feather motifs, but more often with the entire interior occupied by a large, complex design, sometimes with a band of panels carrying geometric and/or stylized feather motifs, but more often with the entire interior occupied by a large, complex design, sometimes asymmetric, and often including bird motifs; bowl exteriors are plain or carry only a simple decoration, such as a horizontal line ending in stylized tassels, or groups of two, three, or four parallel short lines, horizontal or oblique. Jars are decorated around shoulder, sometimes to rim or nearly to rim, with complicated geometric and feather elements, usually arranged in one or two encircling bands.

Comparisons: The common assumption that this pottery is an attempt to copy Sikyatki Polychrome, which the Zuni villages were acquiring from the Hopi country, is supported by the close similarity in shape and decoration of many of the vessels. But Matsaki Polychrome is easily distinguished by its crazed, rougher surface, and its softer and coarser paste. Slip color of Matsaki Polychrome rarely approaches the clear yellow of Hopi pottery and shows far wider and more frequent variation toward brown and orange.

Remarks: This is the predominant pottery, with Matsaki Brown-on-buff, of the pre-contact period of the historic Zuni towns, and it continued in abundant use during the 17th century, when missions were established at some of the towns (Woodbury and Woodbury 1966:329). Matsaki Brown-on-buff resembles but is distinguished from the polychrome by a lack of red paint in decoration. Besides the lack of red paint in the decoration, Matsaki Brown-on-buff vessels often have somewhat simpler designs than occur on Matsaki Polychrome.

➡ Pinnawa Glaze-on-White

Time Period: About A.D. 1350 to 1450.

Distinguishing Characteristics: All-over white slip, decoration in glaze that varies from dense black or greenish to thin brownish-black.

Temper: Temper is medium to occasionally fine in texture, of angular fragments, usually gray, sometimes white.

Surface Color: Bowl interiors and exteriors, and jar exteriors are usually creamy-white, occasionally pure white, yellowish white, or pale gray. Jar interiors either light pinkish buff or pale to medium-dark gray. Fire clouds are rare, usually light gray when present.

Surface Finish: Bowl interiors and exteriors and jar exteriors are always well smoothed, slipped, and with slight to good polish; sometimes smoothing and polishing marks show. Surface often finely crackled, but may be compact and smooth. Jar interiors unslipped, smoothed, and unpolished; smoothing marks usually visible but not conspicuous.

Decoration: Black glaze, usually thick, ranging from heavy and opaque with high luster to dull and bubbly. May change abruptly to green or thin out to a streaky matte black, a matte brown, or a thin and streaky greenish-brown. Glaze paint sometimes penetrates. Bowl exteriors usually have isolated elements below the rim, such as paired stepped triangles, a scroll, or a stepped line but sometimes have a continuous band of simple decoration such as a rectilinear meander or horizontal parallel lines.

Bowl interiors have either (a) a broad band just below rim with parallel bordering lines, containing stepped triangles, oblique panels, interlocking scrolls, or checkerboard with dots; center of bowl may be undecorated or may contain single large complex unit; or (b) sectioned layout with some decorated and some undecorated areas.

Jar exteriors: upper body encircled by broad band which contains varied or alternating decorative elements; neck encircled by band of stepped triangles, squiggle hatching, or other repeated motifs, or sometimes neck has only a few isolated elements. On both jars and bowls life forms occur, consisting of stylized birds on the apices of triangles or corners of rectangles. Solid filled triangles common. Brush work is sometimes careless, with lines varying in width and line ends running over. Glaze spreads and slightly blurs the designs, but rarely runs badly. The over-all effect is of precise, neat execution with minor irregularities.

➡ Pinnawa Red-on-White

Time Period: About A.D. 1375-1630 (Kingtigh 1985: Table 3.1).

Distinguishing Characteristics: All-over white slip, decoration in brownish red, with simple geometric elements.

Temper: Generally, medium to occasionally fine in texture with light-colored angular fragments.

Surfaces: Bowl interiors and exteriors, and jar exteriors are always slipped and well smoothed, with slight to good polish. Surface often finely crackled, and slip sometimes flakes off. Jar interiors unslipped and smoothed but unpolished. Fire clouds are extremely rare. Bowl interiors and exteriors and jar exteriors creamy white or chalky white. Jar interiors pinkish tan, light reddish-brown, medium gray, or white.

Decoration: The paint is usually brownish red, usually opaque and uniform, but may be streaky and thin; sometimes a brownish-black resembling the paint used on Matsaki Polychrome. The paint sometimes flakes off. Design elements and their arrangement are usually very simple. Bowls are decorated in a single exterior band, and only very rarely on the interior. Jars have a broad zone of decoration from the lip or from the base of the neck to approximately the maximum diameter. Some vessels have parallel encircling lines below bowl rims and at the maximum diameter of jars, with no other decoration. Bowls and jars also have bands of squares, stepped lines, ticked lines and simple isolated rectilinear elements. Decoration is markedly simpler than on Pinnawa Glaze-on-white and Kechipawan Polychrome.

➡ Hawikah Polychrome

Time Period: About A.D. 1630-1680 or later.

Distinguishing Characteristics: A revival of glaze decorated pottery in the Zuni area. The revival was brief. Bowls and jars are Rio Grande shapes, and both are slipped, partly brownish-red and partly white or pale buff with decoration in runny irregular glaze.

Temper: Usually of medium texture, occasionally fine, and contains small light colored angular fragments.

Surfaces: Bowl interiors and exteriors, and jar exteriors smoothed; slip sometimes moderately polished, often crackled, flake, or pitted. Jar interiors poorly to moderately smoothed, unpolished. Fire clouds are ab-

sent. Bowls have five characteristic arrangements of red and/or white on their surfaces:

(1) Slipped red on interior, and on exterior below a narrow white zone encircling the rim;

(2) Slipped white only on inner rim, when rim is broadly flaring instead of incurving;

(3) Slipped red on exterior, with or without a white rim band, but interior slipped entirely white;

(4) Slipped white on all of interior and exterior; and

(5) Slipped red on exterior, and interior bisected with half slipped red, half slipped white.

Jars usually have the exterior slipped red on the base and white on the upper body from the lip to near, or just below, the maximum diameter. Occasionally, the upper body is bisected vertically, half slipped red and half white, with the base red. Interiors are unslipped, pinkish buff, occasionally gray; rarely slipped red. Interiors usually have a narrow (1-4 cm) irregular zone of red at the rim. The white slip is creamy-white to yellowish-buff, sometimes very similar to lighter shades of Matsaki Polychrome. The red slip reddish-brown, often purplish, sometimes very dark on exterior base.

Decoration: The glaze paint is black to dark green, usually bubbly; generally spreads unevenly, resulting in ragged edges and variable line width; occasionally runs so as to partly obliterate design. Red paint is matte, pinkish or purplish, usually flaked or crackled with slip showing through. Design elements in glaze on the red of some bowl interiors and in glaze and red on the white areas of both bowls and jars, with glaze extensions onto adjacent red areas. Bowl and jar exteriors have one or two bands of decoration, usually divided into panels, and filled with complex combinations of stylized feathers, keys, pendent triangles, and sometimes other motifs. On bowl interiors and rarely on lower body of jar exteriors simple isolated crosses, lines, dots, or stylized dragonflies occur in glaze. Bowl interiors more often have large complex central decorations, sometimes including crude animal, plant, or insect forms. A few bowl interiors have large curvilinear white areas, glaze-bordered, with little or no additional detail. Most decoration is drawn in glaze, with red paint commonly used to fill some of elements; sometimes red is used alone for part of a design.

Comparison: In contrast to Kechipawan Polychrome, Hawikuh Polychrome has large areas of red slip, has a rougher surface, usually has a yellower tinge to the white slip, and has a less precise application of its glaze decoration. Hawikuh Polychrome designs resemble quite closely those of Matsaki Polychrome and its white slip sometimes approaches the lighter shades of Matsaki Polychrome; but the decoration is more carelessly drawn and uses glaze instead of brownish-black paint. Hawikuh Polychrome is distinctly different in detail from contemporary Rio Grande glazed pottery.

Remarks: This revival of glaze decoration by the Zuni probably results from Rio Grande influence, since it shows no clear continuity with the earlier glaze-on-white pottery of the Zuni area, and is separated from it by a period of matte paint decorated buff ware. The revival was relatively brief, ending during or immediately after the Pueblo Revolt of 1680. Following this, a nonglaze pottery known as Ashiwi Polychrome (Mera 1939) was made by the Zunis, continuing some of the decorative elements of Hawikuh Polychrome and Matsaki Polychrome, but using vessel shapes probably of Rio Grande derivation.

Field Procedures

General Methods

Ceramic artifacts were samples and the resultant data recorded during the field session of the 1985 SACA survey using field methods similar to those employed during the 1984 project. The field methods used had been designed to provide a data base to construct analyses of assemblage content and structure (Camilli et al. 1988). The same ceramic recording forms and ceramic data coding for-

mat (see Volume 1) were used both years. Moreover, in 1985, the data collection emphasis remained on the description and definition of specific ceramic types and temporal assemblages (Camilli et al. 1988). The 1985 field work collection of all ceramic data was performed by one individual. This resulted in a consistent application of ceramic typology to the artifacts and a uniformity in the data collection.

Ceramic materials in the study area display various attributes, mainly painted decorations and surface manipulation, which are useful as stylistic temporal markers. A recent publication by Schroeder (1982) is suggested for an overview of southwestern ceramics in general and another by Fowler (1985) for ceramics within the specific project area.

Sample Types

Ceramic samples were taken from three categories: trash mounds or middens, refuse or artifact scatters, and roomblocks (Table 8.6). Refuse or artifact scatters comprise the largest category with 91 samples taken from this category; 16 samples came from trash mounds or middens. Roomblocks provided an additional 12 samples. Sampling units included grids varying in size from 1 by 1 m to 10 by 10 m with most grid sizes being 5 by 5 m. Other sampling units on large area, low-density artifact or refuse scatters were of the unstructured type. A few sampling units included all observed ceramics.

One sampling unit is recorded as being of the 50 percent observed type. At many of the sites viewed during the SACA 85 survey, the ceramic material was sparse and it was not possible to recover data from a minimum of 50 sherds. Other sites contained numerous sherds and the sampling grids were placed on a subjective basis in order to achieve the minimum count as well as to encompass as many types as possible. In retrospect, it can only be said that this was indeed a subjective method, but one which was also used during the 1984 survey (Camilli et al. 1988). Overall, it is believed the ceramic sample represents a fair approximation of the ceramic types present in the survey area.

General Provenience Designations

The general provenience designations which were used in 1984 were used again in 1985. These are roomblocks, pitstructures, dance plazas/great kivas, midden deposits, refuse scatters, earthworks, and rooms (Camilli et al. 1988). The number and size of architectural units, midden areas, refuse scatters, and other discrete artifact distributions present at sites or proveniences determined the placement of sample collections units. Ceramic data from small sites or proveniences were most often recorded from either a single bounded sample unit or all the observed specimens present at the site or provenience. The midden deposits of larger sites with multiple components or proveniences were usually sampled using bounded grids. Whenever it was feasible, the architectural units of the larger sites were also sampled.

On both large and small sites and proveniences, whenever the artifact density was sufficient, a grid was used to bound the sample. Most of the samples collected during the 1985 survey were of the "all observed" or "100 percent observed within a 1 by 1 m grid" type. Low density artifact scatters and isolated occurrences also represent "100 percent observed," and "1 by 1 m grid" were so noted.

Ceramic Complexes, Pottery Types, and Chronology

The pottery types and categories identified during the SACA 85 survey were grouped into ceramic complexes and associations in an attempt to establish a finer temporal indicator than allowed by the broad Pecos classification system. Other researchers (Camilli et al. 1988; Danson 1957; Fowler 1985) in the area have found that most of the ceramic types identified during their projects tended to be of the Pueblo II and Pueblo III periods. Fowler (1985:119) aptly describes the situation as, "this would tend to make all the Anasazi sites apparently contemporaneous . . . a gross oversimplification."

The use of ceramic complexes and associations of pottery types has been used successfully by many researchers (Colton 1946; Crown 1980; Doyel and Debowski 1980; Dit-

Table 8.6. Ceramic Sample Frequencies by Occupation Period and Sample Location from SACA 85

Sample Location	Provenience Ceramic Period							
	PI-PII	PI-PIII	PII	PII-PIII	PII-Late PIII	PIII	PIII-Late PIII	PI-Late PIII
Frequency								
Roomblock	1	1	2	6	0	2	0	0
Trash Mound	1	0	4	7	3	0	1	0
Refuse Scatter	10	8	32	20	3	5	2	11
Total	12	9	38	33	6	7	3	11

TOTAL
12
16
91
119

tert 1959; Hunter-Anderson 1978; Kintigh 1985; Plog 1978; Ruppe 1953; Tainter and Gillio 1980; Zier 1976) to establish temporal sequences. A ceramic complex has been defined by Colton (1946:18) as, "an assemblage of contemporary, usually painted pottery types recognized at a site of short occupation." Colton continued with the definition of a "pottery complex at a site to be made up of a ceramic group composed of decorated types and the utility pottery wares." Later, during a study of ceramics at Awatovi Pueblo, Watson Smith (1971:21-22) expanded the concept of a ceramic complex to mean ". . . an assemblage representing a brief portion of the total period of occupation at a site of longer duration."

Kintigh (1985:12) remarks, "Ideally the complexes would be composed of a set of ceramic types, vessels of which were produced at the same time."

Concerning surface collections, Kintigh (1985:12) wrote, " . . . the assemblages are composed of sherds deposited at some time during the occupation of the site." Various problems such as heirloom keeping, the length of use of any given ceramic vessel, the collection of earlier types for temper, and post-occupational disturbance all may distort the ceramic surface collection at a site (Fowler 1985:120; Kintigh 1985:12). Certainly, collection of surface ceramics by archeologists and other individuals tends also to distort the sample picture at a location.

As pointed out recently by Fowler (1985:120), certain of the whitewares have a fairly long life span such as Puerco and Reserve Black-on-white. Red Mesa Black-on-white also seems to have a long popularity in the study area. The White Mountain Redware series offers relatively short temporal spans and is very useful in the establishment of the later ceramic complexes. Often, the presence of utility wares exhibiting various surface treatments are useful in the chronological placement of ceramic complexes and/or sites.

Absolute and relative dating of various pottery types (Tables 8.7 and 8.8) also help establish the sequence of ceramic complexes. Most researchers (Fowler 1985; Kintigh 1985) view the dating of many types as inadequate. However,

taken collectively, the dated pottery does offer a reasonable chronological sequence which can be used to temporally place other artifact types, architecture, village size, population dynamics, and other cultural features and elements. The following chronology of ceramic complexes (Tables 8.7 and 8.8) is viewed as tentative rather than definitive. It was adapted from previous work on ceramic associations in the SACA by Camilli et al. (1988), Danson (1957), Fowler (1985), and others. It is hoped that, as more work is accomplished in the SACA, the ceramic complexes will be defined more clearly and a tighter chronological sequence will be established. Certain low frequency pottery types such as Cebolleta Black-on-white, Chupadero Black-on-white, Mimbres Black-on-white, McElmo-Mesa Verde Black-on-white, Socorro Black-on-white, and others which occur only at one or two sites are not included in the description of the ceramic complexes. These do not seem to represent a trend in the area or region. However, the low frequency types do often help define, temporally, a provenience or site at which they occur.

The dates provided in Table 8.9 for the ceramic complexes are not precise, but they are somewhat finer than the standard broad classification system used by Danson (1957) and others. The problem of dating and refinement of the relative dates of the ceramic complexes will not be solved by studies of surface materials only. As the study of the cultural resources of the SACA moves from survey work into excavation, it is hoped that a more refined chronology will result from datable excavated materials.

Ceramic Data from the SACA 1985 Survey

The SACA 85 survey collected ceramic data from 196 proveniences within 106 sites and isolated artifacts. Ceramic ware, type, and vessel form were recorded for 3,486 sherds.

Wares and Types

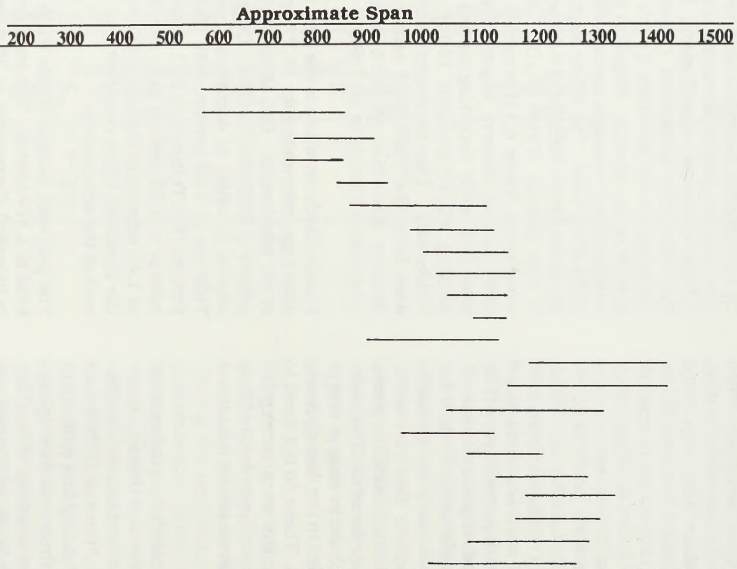
Ceramic wares were composed of 1,496 (42.91 percent) whiteware, 1,174 (33.68 percent) grayware, 512 (14.69 percent) brownware, 287 (8.23 percent) White Mountain redware, and 17 (.49 percent) decorated brownware sherds. The most frequently occurring ware was the Cibola whiteware classification, followed by the culturally associated Cibola grayware category, which accounts for 76.59 percent (2,670) of the sherds. Mogollon brownwares and decorated redwares are only 15.18 percent (529) of the total. The White Mountain series accounts for the remaining 8.23 percent (287) of the sherds (Table 8.10). Among the whitewares (Table 8.11) recorded during the 1985 survey, Reserve Black-on-white is the most frequently occurring named type, comprising 20.39 percent (305) of all the whitewares. This compares similarly to the data from the 1984 field season, in which Reserve accounted for 22.5 percent of the whitewares (Camilli et al. 1988).

Puerco Black-on-white is the next most abundant type, accounting for 11.77 percent (176) of the whitewares. Red Mesa Black-on-white follows at 9.69 percent (145). Other Black-on-whites, in order of occurrence, are Reserve-Tularosa at 5.62 percent (84), Gallup at 4.68 percent (70), Tularosa at 4.41 percent (66), Escavada at 3.88 percent (58), and Kiatuthlana at 1.40 percent of the total. The remainder of the identified types comprise less than 1 percent of the whitewares.

The grayware sample (Table 8.12) included a total of 1,174 sherds. The most frequent type is Indented Corrugated at 35.4 percent (416) followed by a narrow banded corrugated type at 22.83 percent (268). The third most frequent type is the plain gray category at 16.27 percent (191). This category includes sherds of Lino Gray, simple plain gray vessels, and plain sherds which might be the lower portions of shoulder corrugated vessels. The unidentified gray category at 11.07 percent (130) includes those sherds whose surfaces had spalled or were in some other way not classifiable into the other categories. The plain corrugated type accounted for 2.72 percent (32), and is distinct from the more numerous narrow banded type. Another minor, but distinct, type is the clapboard variety at 2.13 percent (25). The banded wide type at 4.69 percent (55) is a local variety of Kana'a neckbanded. The remaining types each are less than two percent of the grayware total.

Table 8.7. The Chronological Sequence of Selected Pottery Types of Black-on-Whites in SACA 1985.

Pottery Type	Dates A.D.	Approximate Span
Lino	570-875	
La Plata	575-875	
White Mound	750-900	
Kana'a	725-850	
Kiatuthlana	825-910	
Red Mesa	875-1100	
Escavada	1000-1100	
Puerco	1000-1150	
Gallup	1025-1150	
Chaco	1050-1125	
Chaco-McElmo	1100-1150	
Cebolleta	900-1150	
Kowina	1200-1400	
Chupadero	1150-1400	
Socorro	1050-1300	
Reserve	950-1100	
Reserve-Tularosa	1075-1150	
Tularosa	1150-1275	
Klagetoh	1175-1325	
Snowflake	1150-1300	
McElmo-Mesa Verde	1090-1250	
Mimbres	1000-1200	



(Compiled from Breternitz 1966; Kintigh 1985; Plog 1981)

Table 8.8. The Chronological Sequence of Selected Pottery Types of White Mountain Redwares in SACA 1985

Pottery Type	Date A.D.	Approximate Span
		200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600
B/R Polychromes:		
Puerco B/R	1000-1200	
Wingate B/R	1000-1200	
Wingate Poly	1125-1200	
St. Johns B/R	1175-1300	
St. Johns Poly	1175-1300	
Springerville Poly	1250-1300	
Pinedale B/R	1275-1325	
Pinedale Poly	1275-1325	
Four-mile Poly	1325-1400	
Kwakina Poly	1285-1300	

(Compiled from Breternitz 1966, 1982; Carlson 1970; Schroeder 1982.)

Table 8.9. Ceramic Complexes and Relative Temporal Categories in SACA 85

Complex	Dating Christian Era	Ceramic Complex	Pecos Classification
1	Pre A.D. 500	Alma series of brownwares, Fugitive Red-slipped browns, San Francisco Red.	(Mogollon)
2	500-700	Graywares: Lino Gray, Lino B/G Brownwares: Alma Brown, Polished Brown, Rough Brown. Decorated Brownwares: Mogollon R/Br, San Francisco Red.	Basketmaker III
3	500-800	Same as above; plus Whitewares: Kana'a/White Mound/La Plata B/W	Basketmaker-Pueblo I
4	700-900	Graywares: Plain Gray, Neckbanded, Pueblo Clapboard (very wide bands). Brownwares: Plain Brown (Alma Series), Neckband. Decorated Brownwares: Mogollon R/Br., San Francisco Red, Three Circle W/R. Whitewares: Kana'a/White Mound/La Plata B/W.	
5	800-1000	Same as above; plus Whitewares: Red Mesa B/W. Graywares and Brownwares: Plain corrugations, Shoulder corrugated Few wide bands indented corrugated. NO WHITE MOUNTAIN REDWARES.	Pueblo I-II
6	900-1100	Grayware and Brownwares: Indented corrugated, Patterned corrugated, Shoulder corrugated. Whitewares: Red Mesa B/W, Escavada B/W, Reserve B/W, Puerco B/W, Gallup B/W, Socorro B/W, Cebolleta B/W. Redwares: Puerco B/R, Wingate B/R.	Pueblo II
7	950-1050	Graywares and Brownwares: Same as above. Whitewares: Red Mesa B/W, Reserve B/W, Escavada B/W, Puerco B/W, Cebolleta B/W. Redwares: Same as above.	
8	1050-1100	Graywares and Brownwares: Same as above, plus overall corrugated. Whitewares: Puerco B/W, Reserve B/W, Gallup B/W. Redwares: Puerco B/R, Wingate B/R.	
9	1050-1125	Grayware and Brownware: Same as above Whitewares: Puerco B/W, Reserve B/W, Reserve-Tularosa B/W, late Red Mesa B/w, Chaco B/W. Redware: Same as above, no polychromes.	Pueblo II-III
10	1050-1150	Graywares and Brownwares: Same as above, overall corrugations more common, tooled corrugations. Whitewares: Same as above. Redwares: Puerco B/R, Wingate B/R, Wingate Polychrome.	Pueblo II-III
11	1100-1150	Graywares and Brownwares: Same as above. Whitewares: Late Red Mesa B/W, Gallup B/W, Puerco B/W, Reserve B/W, Reserve- Tularosa B/W, Gallup B/W, Chaco-McElmo B/W. Redwares: Puerco B/R.	Pueblo III
12	1100-1175	Graywares and Brownwares: Same as above. Whitewares: Puerco B/W, Reserve B/W, Reserve-Tularosa B/W, Gallup B/W, Redwares: Wingate B/R.	
13	1150-1200	Graywares and Brownwares: Same as above, tooling ends. Whitewares: Same as above. Redwares: Puerco B/R, Wingate B/R, St. Johns B/R.	
14	1100-1250	Graywares and Brownwares: Overall corrugations, indented and patterned corrugated, fillet rim, smudged interiors of bowls on brownwares most common.	
15	1250-1300	Graywares and Brownwares: Same as above. Whitewares: Same as above, plus Kowina B/W, Tularosa-Klagetoh B/W, Snowflake B/W. Redwares: St. Johns B/R, St. Johns Polychrome, Springerville Polychrome.	Late Pueblo III
16	1300-1350	Graywares and Brownwares: Same as above, plus the appearance of obliterated corrugations on a few vessels. Whitewares: Late Tularosa B/W, Klagetoh B/W, other P/V B/Ws, Pinedale B/W. Redwares: Pinedale Polychrome, Fourmile Polychrome, late varieties of B/R, Kwakina Polychrome, Glaze A series of red or yellow; Jeddito B/Y.	Pueblo IV

(Adapted from Camilli et al. 1988; Fowler 1985)

Table 8.10. Ceramic Wares Collected in SACA 85

Ware	Frequency	Cum. Freq.	Percent	Cum. Percent
Brownwares	512	512	14.687	14.687
Cibola Whitewares	1,496	2,008	42.915	57.602
Dec'd. Brownwares, etc.	17	2,025	0.488	58.090
Graywares	1,174	3,199	33.678	91.767
White Mtn. Red	287	3,486	8.233	100.000

Table 8.11. Whiteware Ceramic Types in SACA 85

Ceramic Type	Frequency	Cum. Freq.	Percent	Cum. Percent
Reserve B/W	305	305	20.388	20.388
Tularosa B/W	66	371	4.412	24.799
Res/Tula B/W	84	455	5.615	30.414
Kiatuthlana B/W	21	476	1.404	31.818
Red Mesa B/W	145	621	9.693	41.511
Escavada B/W	58	679	3.877	45.388
Puerco B/W	176	855	11.765	57.152
Gallup B/W	70	925	4.679	61.832
Socorro B/W	11	936	0.735	62.567
Mimbres B/W	3	939	0.201	62.767
R.M./Gallup B/W	13	952	0.869	63.636
Unident. CWW B/W	497	1,449	33.222	96.858
Unident. Solid B/W	2	1,451	0.134	96.992
Unident. Hatch B/W	1	1,452	0.067	97.059
Snowflake B/W	5	1,457	0.334	97.393
Cibola B/W	1	1,458	0.067	97.460
Chaco-McElmo B/W	7	1,465	0.468	97.928
Kowina B/W	12	1,477	0.802	98.730
Cebolleta B/W	4	1,481	0.267	98.997
Klagetoh B/W	10	1,491	0.668	99.666
Chaco B/W	2	1,493	0.134	99.799
White Mound B/W	3	1,496	0.201	100.000

Table 8.12: Grayware Ceramic Types in SACA 85

Ceramic Type	Frequency	Cum. Freq.	Percent	Cum. Percent
Kana'a Neckband	4	4	0.341	0.341
Plain Gray	191	195	16.269	16.610
Plain Corrugated	32	227	2.726	19.336
Clapboard	25	252	2.129	21.465
Indented Corr.	416	668	35.434	56.899
Obliterated. Corr.	2	670	0.170	57.070
Unid. Gray	130	800	11.073	68.143
Banded Wide	55	855	4.685	72.828
Banded Narrow	268	1,123	22.828	95.656
Banded Wide Sm.	14	1,137	1.193	96.848
Banded Narrow Sm.	17	1,154	1.448	98.296
Indented Incised	3	1,157	0.256	98.552
Indented Tooled	3	1,160	0.256	98.807
Exuberant Corr.	3	1,163	0.256	99.063
Pattern Corr.	10	1,173	0.852	99.915
Micaceous Gray	1	1,174	0.085	100.000

The brownwares and decorated brownwares (Tables 8.13 and 8.14) accounted for some 512 sherds in the study. As in the SACA 1984 ceramic analysis (Camilli et al. 1988), the sampled ceramics included over twice as many graywares and brownwares. In the brownware category, the plain polished type amounted to 27.34 percent (140) followed by indented corrugated types at 21.09 percent (108). Other higher frequency brownware types include plain corrugated at 17.97 percent (92), plain unpolished brown at 12.70 percent (65), patterned corrugated at 4.10 percent (21), and the fillet rim types at 3.91 percent (20) of the total. The remaining brownware types are less than two percent of the brownware category.

The decorated brownwares (Table 8.14) included only 17 sherds, nine (52.94 percent) of which were a plain, red slipped ware, not otherwise identifiable, and eight (47.06 percent) of San Francisco Red.

The redware sample (Table 8.15) included a total of 287 sherds which were analyzed in the SACA 85 field study. The most frequent redware is St. Johns Black-on-red at 31.01 percent (89) followed by Puerco Black-on-red at 26.48 percent (76), St. Johns Polychrome at 17.07 percent (49), and Wingate Black-on-red at 9.41 percent (27). The unidentified category included 14.63 percent (42) of the total. These were unidentifiable mainly because of surface flaking or spalling. The remaining type categories of Wingate, Springerville, and Kwakina polychromes are each less than 1 percent of the total redwares.

Table 8.13: Brownware Ceramic Types in SACA 85

Ceramic Type	Frequency	Cum. Freq.	Percent	Cum. Percent
Plain Polished	140	140	27.344	27.344
Neckbanded Brown	2	142	0.391	27.734
Plain Corr.	92	234	17.969	45.703
Pattern Corr.	51	285	9.961	55.664
Tooled Corr.	21	306	4.102	59.766
Fillet Rim	20	326	3.906	63.672
Unid. Brown	5	331	0.977	64.648
Plain Brown	65	396	12.695	77.344
Pl. Br-Smudged Int.	6	402	1.172	78.516
Indented Corr.	108	510	21.094	99.609
Oblit'd. Corr.	2	512	0.391	100.000

Table 8.14: Decorated Brownwares in SACA 85

Ceramic Type	Frequency	Cum. Freq.	Percent	Cum. Percent
Plain Redware	9	9	52.941	52.941
San Francisco Red	8	17	47.059	100.00

Table 8.15. Decorated Redwares in SACA 85

Ceramic Type	Frequency	Cum. Freq.	Percent	Cum. Percent
Puerco B/R	76	76	26.481	26.481
Wingate B/R	27	103	9.408	35.889
Wingate Poly.	1	104	0.348	36.237
St. Johns B/R	89	193	31.010	67.247
St. Johns Poly.	49	242	17.073	84.321
Springerville Poly.	1	243	0.348	84.669
Unid. WMR Poly.	1	244	0.348	85.017
Kwakina Poly.	1	245	0.348	85.366
Unidentified WMR	42	287	14.634	100.000

In summary, the whitewares and graywares associated with the Cibola tradition were the most frequent in the survey data. Reserve and Puerco Black-on-whites and an indented and narrow banded corrugated were the most frequent identifiable types. The brownwares were the third most frequent ware with a plain, polished surface brown and an indented corrugated type most common. The graywares were more than twice as prevalent as the brownwares. St. Johns and Puerco Black-on-reds were the more frequent redwares. Only a very small number of decorated brownwares, such as San Francisco Red, were identified. Relative high percentages of whitewares (33.42 percent), graywares (11.07 percent), and redwares (14.63 percent) were not identifiable as to type because surface spalling or other factors prevented type identification.

Vessel Form

Vessel form categories are bowls, jars, ladles, and indeterminate.

Bowl sherds were distinguished from jar sherds by interior polishing, slipping, decoration, the absence of an inverted or everted rim, and the characteristic sherd curvature (Camilli et al. 1988; Shepard 1963).

The percentage of vessel form categories for all tabulated whitewares (Table 8.16) included 23.93 percent (358) for bowls, 74.47 percent (1,114) for jars, and 1.6 percent (24) for ladles. The ratio of bowl to jar in the overall whiteware category is 1 to 3.1. Individual pottery types vary from the overall ratio. Certain pottery types such as Mimbres and White Mound Black-on-whites were represented only by bowl sherds. Other types, such as the Red Mesa-Gallup transitional category, Socorro, and Klagetoh Black-on-whites were denoted only by sherds from jars.

Of the more common types in SACA 85, Reserve Black-on-white shows a bowl-to-jar ratio of 1 to 2.12, while the Reserve-Tularosa transitional type suggests a ratio of 1 to 2.9, and Tularosa Black-on-white a ratio of 1 to 4.4.

Other pottery types such as Red Mesa, Puerco, and Gallup Black-on-whites have bowl to jar ratios, respectively, of 1 to 1.5, 1 to 1.2, and 1 to 5.4.

The proportions of grayware vessel forms (Table 8.17) are bowls – about 1 percent; jars – 98.64 percent; and other forms less than one-half percent; in summary, almost all graywares are jars.

Table 8.16. Bowl-Jar Proportions by Ware and Type in SACA 85

Ware	Ceramic Type	Bowls	Bowl %	Jars	Jar %	Total
Cibola Whiteware	Kowina B/W	1	8.3	10	83.3	12
Cibola Whiteware	Cebolleta B/W	2	50.0	2	50.0	4
Tusayan Whiteware	Klagetoh B/W	0	0.0	10	100.0	10
Cibola Whiteware	Chaco B/W	1	50.0	1	50.0	2
Cibola Whiteware	White Mound B/W	3	100.0	0	0.0	3
Cibola Whiteware	Reserve B/W	86	28.2	217	71.1	05
Cibola Whiteware	Tularosa B/W	12	18.2	53	80.3	66
Cibola Whiteware	Res/Tula/B/W	21	25.0	61	72.6	84
Cibola Whiteware	Kiatuthlana B/W	9	42.9	12	57.1	21
Cibola Whiteware	Red Mesa B/W	58	40.0	85	58.6	145
Cibola Whiteware	Escavada B/W	17	29.3	39	67.2	58
Cibola Whiteware	Puerco B/W	77	43.8	96	54.5	176
Cibola Whiteware	Gallup B/W	11	15.7	59	84.3	70
Cibola Whiteware	Socorro B/W	0	0.0	11	100.0	11
Mogollon Whiteware	Mimbres B/W	3	100.0	0	0.0	3
Cibola Whiteware	R.M./Gallup B/W	0	0.0	13	100.0	13
Cibola Whiteware	Unid. CWW B/W	51	10.3	435	87.5	497
Cibola Whiteware	Unid. Solid B/W	0	0.0	2	100.0	2
Cibola Whiteware	Unid. Hatch B/W	0	0.0	1	100.0	1
Cibola Whiteware	Snowflake B/W	1	20.0	4	80.0	5
Mesa Verde Whiteware	McElmo-MesaVerdeB/W	1	100.0	0	0.0	1
Cibola Whiteware	Chaco-McElmo B/W	4	57.1	3	42.9	7
Totals	**Whitewares**	**358**	**23.93**	**1,114**	**74.47**	**1,496***

Bowl/Jar Proportion for Whitewares 24.32/75.68**

* This figure represents all forms of each ware including bowls, jars, ladles, etc.

**This figure is the proportion of bowl and jars.

Brownware proportions (Table 8.18) are 18.75 percent (96) bowl sherds, 49.41 percent (253) jar sherds, 31.84 percent (163) unidentified as to vessel form. One reason for the high frequency of unidentified brownware vessel form is because brownware is of a softer paste and more prone to erosional agents than the white and graywares. The ratio of brownware bowls to jars is 1 to 2.6.

Decorated brownwares (Table 8.19) are few in number, but suggest that the San Francisco Red type may be represented only by jars, and the plain slipped red local type is represented by both bowl and jars at a ratio of 1 to 2.

The White Mountain Redware proportions (Table 8.20) for all pottery types is, bowls 89.20 percent (256), jars 9.76 percent (28), other forms 1.04 percent (3). The ratio of bowls-to-jars is 1 to 0.11 for all ware types.

In summary, the vessel form proportions for all recorded wares are bowls 20.73 percent, jars 73.65 percent, and other or indetermine 5.62 percent (Table 8.21).

Table 8.17. Grayware Bowl-Jar Proportions in SACA 85.

Ware	Ceramic Type	Bowls	Bowl %	Jars	Jar %	Total
Graywares	Banded Wide	0	0.0	55	100.0	55
Graywares	Banded Narrow	2	0.7	266	99.3	268
Graywares	Banded Wide Small	0	0.0	14	100.0	14
Graywares	Banded Narrow Small	0	0.0	17	100.0	17
Graywares	Indented Incised	0	0.0	3	100.0	3
Graywares	Indent Tooled	0	0.0	3	100.0	3
Graywares	Exuberant Corr.	0	0.0	3	100.0	3
Graywares	Micaceous Gray	1	100.0	0	0.0	1
Graywares	Plain Corrugatee	3	9.4	28	87.5	32
Graywares	Indented Corr.	2	0.5	413	99.3	416
Graywares	Pattern Corr.	0	0.0	10	100.0	10
Graywares	Kana'a Neck-Band	0	0.0	4	100.0	4
Graywares	Plain Gray	2	1.0	189	99.0	191
Graywares	Clapboard	0	0.0	25	100.0	25
Graywares	Oblit. Corr.	0	0.0	2	100.0	2
Graywares	Unid. Gray	0	0.0	128	98.5	130
Totals		**10**	**.01**	**1,160**	**98.64**	**1,176***

Bowl/Jar Proportion for Graywares .85/99.15

* This figure represents all forms of each ware including bowls, jars, ladles, etc.

Table 8.18. Brownware Bowl-Jar Proportions in SACA 85

Ware	Ceramic Type	Bowls	Bowl %	Jars	Jar %	Total
Brownwares	Plain Brown	15	23.1	46	70.8	65
Brownwares	Plain Polished	20	14.3	65	46.4	140
Brownwares	Neckbanded Brown	0	0.0	1	50.0	2
Brownwares	Plain Corr.	18	19.6	54	58.7	92
Brownwares	Indented Corr.	12	11.1	56	51.9	108
Brownwares	Pattern Corr.	6	11.8	15	29.4	51
Brownwares	Tooled Corr.	10	47.6	7	33.3	21
Brownwares	Fillet Rim	6	30.0	2	10.0	20
Brownwares	Unid. Brown	0	0.0	5	100.0	5
Brownwares	Obliterated Corr.	0	0.0	2	100.0	2
Brownwares	Pl. Br-Smudged Int.	6	100.0	0	0.0	6
Totals		**96**	**18.75**	**253**	**49.41**	**512***

Bowl/Jar Proportions for Brownwares - 27.51/72.49

* This figure represents all forms of each ware including bowls, jars, ladles, etc.

Table 8.19. Decorated Brownware Bowl-Jar Proportions for SACA 85

Ware	Ceramic Type	Bowls	Bowl %	Jars	Jar %	Total
Dec. Brown	Plain Redware	3	33.3	6	66.7	9
Dec. Brown	San Francisco Red	0	0.0	8	100.0	8
Totals		**3**	**17.6**	**14**	**82.4**	**17**

Bowl/Jar Proportions for Decorated Brownwares - 17.6/82.4

Table 8.20. White Mountain Redware Bowl-Jar in SACA 85

Ware	Ceramic Type		Bowls	Bowl %	Jars	Jar %
White Mtn. Red	Puerco B/R	71	93.4	5	6.6	76
White Mtn. Red	Wingate B/R	24	88.9	3	11.1	27
White Mtn. Red	Wingate Poly.	1	100.0	0	0.0	1
White Mtn. Red	St. Johns B/R	83	93.3	6	6.7	89
White Mtn. Red	St. Johns Poly.	46	93.9	3	6.1	49
White Mtn. Red	Springerville Poly.	1	100.0	0	0.0	1
White Mtn. Red	Unid. WMR Poly.	1	100.0	0	0.0	1
White Mtn. Red	Kwakina Poly.	1	100.0	0	0.0	1
White Mtn. Red	Unidentified WMR	28	66.7	11	26.2	42
Totals		**256**	**89.2**	**28**	**9.76**	**287***

Bowl/Jar Proportions for White Mountain Redwares - 90.14/9.86

* This figure represents all forms of each ware including bowls, jars, ladles, etc

Table 8.21. Summary of Vessel Form for SACA 85

	Ceramic Ware					
Form	White	Gray	Brown	D.Brown	White Mountain	Total
Bowls	358	10	96	3	256	723
Jars	1,114	1,160	253	14	28	2,569
Other	24	4	163	0	3	194
Total	**1,496**	**1,174**	**512**	**17**	**287**	**3,486**

Occupation Periods

In this section, the ceramic samples from sites and proveniences recorded during the 1985 survey are classified into rather broad occupation periods.

The frequency and percentages of pottery types from the sites and proveniences are given later in this section by occupation period. Other statistical data can be found in the Appendices.

The ceramic samples were classified into eight occupation periods and assigned into the Pecos classification system for ease of comparison to data reported on from earlier surveys in the region, such as Camilli et al. (1988), Danson (1957), and Hogan et al. (1985). These periods range in time from circa A.D. 700 to circa A.D. 1300, and are discussed in more detail later in this section.

The variations in the proportions of different wares, types, and the bowl and jar sherds of the same time period are affected greatly by differences in sample size, sample area, the functional differences between the sample locations, and other factors.

A total of 82 sites containing 119 sample proveniences were sorted into the following categories:

Basketmaker III, A.D. 500-700: No sites found during the 1985 survey reflected this earliest ceramic period of the Anasazi.

Pueblo I, A.D. 700-900: No sites displayed only ceramics from this period. Various sites and proveniences did contain Pueblo I ceramics in addition to other period ceramics. There are various reasons for the occurrence of ceramics from multiple time periods; however, no clear patterns were discernible from the 1985 data.

Pueblo I-II, A.D. 700-1100: Six sites with 12 proveniences reflected ceramics from this grouping. One roomblock, one trash mound, and ten refuse scatters were studied.

Pueblo I-III, A.D. 700-1150: Seven sites with nine proveniences contain ceramics of this time period. One roomblock and eight refuse scatters were investigated.

Pueblo I-Late Pueblo III, A.D. 700-1300: Only one site but 11 proveniences, all of them light refuse scatters, reflect ceramics from the grouping.

Pueblo II, A.D. 900-1100: Thirty sites and 38 proveniences are in this division. Samples were studied at two roomblocks, four trash mounds, and 32 refuse scatters.

Pueblo II-Pueblo III, A.D. 900-1150: Twenty-two sites and 33 proveniences comprise this grouping. Sherds were studied at six roomblocks, seven trash mounds, and 20 refuse scatters.

Pueblo II-Late Pueblo III, A.D. 900-1300: Six sites and six proveniences yielded data in this category. Data on ceramics were gathered from three trash mounds, and three refuse scatters.

Pueblo III, A.D. 1100-1300: Six sites and seven proveniences comprise this class. Two roomblocks, and five refuse scatters yielded information on the ceramics.

Pueblo III-Late Pueblo III, A.D. 1150-1350, perhaps 1325: Four sites and 11 proveniences comprise this grouping. All samples came from refuse scatters.

General Trends

The majority of decorated whitewares found in the survey area are of the Cibola tradition, generally gray-white in paste, usually white slipped and mineral painted. Other researchers (Doyel and Debowski 1980; Danson 1957; Hogan et al. 1985) also recorded this trend. The majority of decorated whitewares are the Pueblo II-III types of Reserve and Puerco Black-on-whites.

Other whiteware traditions such as the Little Colorado, Mesa Verde, Rio Grande Abajo, and Tusayan are present in very small numbers. In early Pueblo I-II times, the tradewares seem to be coming from the north and west. During the Pueblo II-early Pueblo III times some material seems to be coming from the Mesa Verde and Rio Grande areas as well. In later Pueblo III times, most trade wares were coming from the Little Colorado and Acoma areas.

Utility wares, either brown or gray, undergo similar changes in time from plain surfaced to corrugated surface to a return to plain or obliterated corrugated surfaces (see Table 8.4 presented earlier). The change from plain to neckbanded to neck-corrugated to all over corrugated is also reported by Hogan et al. (1985) and LeBlanc (1982:117-118).

Other general trends are that the ceramic assemblages contain high frequencies of decorated wares in Pueblo I-II times and in Pueblo III and Late Pueblo III times. This is similar to other investigators' findings (Camilli et al. 1988; Danson 1957; Hogan et al. 1985) for the area.

In Pueblo II times, the majority of the ceramics consists of grayware utility types. Other high frequencies of graywares occur at the Late Pueblo III sites. However, these are usually large population aggregates which may be slanting the proportions of decorated utility wares and types.

Redwares increase in frequency and become very numerous during the Pueblo III period.

Graywares are generally jar forms throughout the entire prehistoric period. Decorated whiteware have a higher bowl frequency in later periods. Overall bowl frequencies do increase through time.

Cultural Affiliation

The majority of the ceramic assemblages found in the lease area has both Anasazi and Mogollon components. Appendix 5 gives the breakdown by site of all ceramic wares recorded.

In very general terms, most of the sites have both gray and brownwares present. The graywares generally dominate all the assemblages. At a few sites, brownwares are predominate over the graywares, but there are no sites with only brownwares. There are a substantial number of sites exhibiting only the graywares and an equally substantial number having the graywares and White Mountain Redwares without brownwares.

The SACA exhibited, for most of the prehistoric ceramic period, ceramic assemblages which are generally indentified as being predominantly of the Anasazi culture. Comparison to areas to the south (Kayser et al. 1975; Martin et al. 1956), which are generally classified as Mogollon, confirms the identification of the Quemado area as generally an Anasazi expression.

Conclusions on Ceramics

The ceramic materials studied during the SACA 85 survey resulted in a tremendous amount of data, most still requiring detailed analysis and correlation. The following conclusions, however, can be drawn from the amount of data studied.

Samples of prehistoric ceramics were studied at a total of 82 archeological sites containing 119 proveniences. Analyses of this data resulted in information concerning occupation period, sample content, ceramic assemblages, bowl-jar frequencies, general trends, and cultural affiliation.

Ceramic samples indicated that six sites were occupied during the early Pueblo I to early Pueblo II times. Seven other sites have ceramics from Pueblo I through Pueblo III times, and one site from Pueblo I through Late Pueblo III times. The Pueblo II period data suggest that 30 sites were occupied only during this period.

Data from Pueblo II-Pueblo III ceramic assemblages indicate that 22 sites were occupied at this time. In the Pueblo II-Late Pueblo III category, there were six sites exhibiting relevant ceramic groups. Six sites were occupied only during the early to mid-Pueblo III period while four sites, which began in early Pueblo III, existed into the Late Pueblo III or even into early Pueblo IV times.

Cultural affiliation of the sites studies during the 1985 survey is predominantly Anasazi, as indicated by the high frequency and dominance of Anasazi pottery types and wares. Mogollon ceramic components do occur, but not in high frequencies.

Throughout most of the prehistoric ceramic period, the ceramic assemblages are of the Anasazi ceramic tradition. Some Mogollon ceramic types do occur in the assemblages. The nature of the relationship or the cause for a mixed ceramic tradition cannot be fully understood from survey data alone.

The ceramic assemblages suggest that the SACA, and the Quemado area in general, contains a fully developed ceramic cultural tradition (see Fowler 1985:133). Definite ceramic connections existed with various other areas such as the Mogollon to the south, the Little Colorado and Tusayan to the west, the Rio Grande Abajo to the east, and the Acoma, Chaco, and Mesa Verde areas to the north and northeast.

Chapter 9

Site and Provenience Densities Within Zones

In Chapter 5, the general notion of dividing a geographic study area into zones and the specific method of defining zones for this Class II sample survey was discussed. The purpose of defining zones, in addition to addressing questions of archeological site placement and prehistoric settlement patterns (Camilli et al. 1988; Hogan et al. 1985), was to provide a more refined basis for expectations about archeological site densities and types in areas of the Moderate Production Area that have not yet been subject to inventory survey, but which may be subject to leasing for coal extraction.

We have cautiously avoided the use of the term "predictive" in any description of this study because it is a controversial concept in archeology and because, even if we were inclined to use it, we believe, as discussed earlier, that the sample design will not stand up to the level of scrutiny required for high-powered statistical "predictions." However, the results of this sample inventory provide a very good basis for the expansion of knowledge of the archeology of the Little Colorado headwaters and for **expectations** about the types and densities of archeological remains to be found later when Class III archeological surveys are conducted for coal leases within the study area.

If the study resulted in findings that reflected a low density of sites, our focus at this point might be to develop fairly specific recommendations on how to manage known and new sites as they are discovered and problems of the archeological record to which data recovered from them might be applied. The fact is that the archeological remains documented by this and adjoining studies (Hogan et al. 1985) are so dense in some zones, so complex, and so significant to the eventual explanation of major regional adaptations, that the overriding concern is that all parties to the future coal leasing be aware of what they are getting into.

With the modification of Unsuitability Criterion 7, as discussed earlier (Chapter 1), no site within the Moderate Production Area is automatically excluded from consideration for coal leasing. Through application of the "multi-resource screens," all sites are open to mitigation of their loss through intensive data recovery (excavation) **provided that** adequate mitigation can be designed and approved by the consulting agencies (OSM, BLM, SHPO, National Advisory Council). Here, the problem becomes very complex, both at the pragmatic level of dollars-and-cents, and at the slightly more esoteric level of archeological research and the techniques that implement it.

The monetary question is one we cannot answer and it will have to be addressed on a case-by-case basis later as Class III surveys are conducted for actual leases. This question is simply, will the costs of proper mitigation of significant sites and complexes of sites outweigh the potential profit to be recovered from the coal that lies under them? A case which immediately comes to mind is the major site, "Cerro Prieto." In pure aesthetics, this is one of the most striking sites in the southwest; in

archeological integrity, complexity, depth, and the significance of the data it holds for application to research, it is in a very special class of sites. The question then becomes, even if money were no object, could impacts to the site be "mitigated?" Archeologists will differ in their answers to this; one bias that we hold is that impacts to sites such as these cannot be "mitigated" in the absence of systematic investigation of outlying smaller sites which we believe compose a system of settlement centered on these major occupational loci. Conversely, and perhaps more important to the reality of what may occur: can impacts to the smaller, outlying sites be "mitigated" in the absence of information from the "million dollar" sites, if economic factors result in their preservation in place?

The answer is probably yes, with the concept that the information from the major centers will be "banked" for future retrieval. However, these sites lie on private surface and are afforded no protection for "banking." Very few landowners have given sites on their property the stewardship that has preserved "Cerro Prieto" and the future of many sites is not bright.

In an earlier chapter, we cautioned that no sampling strategy can "predict" the specific location of particular site types in unknown areas. In other words, this type of sample inventory can provide expectations about regularities in the archeological record; unique conditions can either slip through the sample, or if found, provide no basis for extrapolating into unsurveyed regions. Major community centers such as the one discussed above fall into this latter category, but we believe that it is very unlikely that other sites of this magnitude remain to be discovered in the unsurveyed regions of the Moderate Production Area.

This belief has nothing to do with sampling theory or statistical finesse; we asked the experts — the local ranchers and landowners. No major structural ruin was recorded by this study that was not previously well known by the majority of the population of the Quemado region, and all such sites reported to the various field personnel were recorded, including a few outside the study area boundaries (Camilli et al. 1988). While many of the landowners are extremely sophisticated in their knowledge of the archeology of the region, some spatially large and archeologically complex sites may go unnoticed or be recognized only as areas of cultural material scatters; this type of site can be fully expected to be discovered as surveys of presently unknown areas are conducted.

One type of site in this category would be the early Pueblo occupations where the settlement pattern does not produce the massive, consolidated "ruin" described above. Rather, these sites feature an expanse of low-visibility, scattered structure bases, which in some cases, such as in sample area C199, filled our entire 40-acre survey quadrat and spilled out the edges. Sites such as these will present serious problems in terms of mitigation cost and the adequacy of archeological methods.

The topographic zones (Figure 9.1) which were devised at the outset of this study and which evolved as described earlier were based on assumptions of factors that would affect human behavior on the landscape at a scale that would have some utility for devising expectations for the archeological remains of behavior in unsurveyed portions of zones meeting the same criteria. Some of the questions of relevance of criteria for establishing zones, or sub-populations, for sampling were discussed in Chapter 5; the question of **scale** now becomes important in the analysis of the results. As becomes readily apparent in the presentation of results that follow, the scale of the zones based upon measured slope (topography) is quite large for discussion of site densities.

In proportion of acreage, Zone C composes the largest acreage of the study area by a factor of two over the next largest, Zone D. It also possesses the greatest overall number of site types, and coincides almost uniformly with the vegetative zones of piñon-juniper woodlands and juniper-piñon woodlands, which together exhibit nearly the same archeological composition as the topographic zone they dominate. So, to steal a line from Chenhall quoted earlier, "wouldn't it be great" if we could refine the zones, and particularly Zone C into "subzones" where our expectations could be more specific and "predictive?"

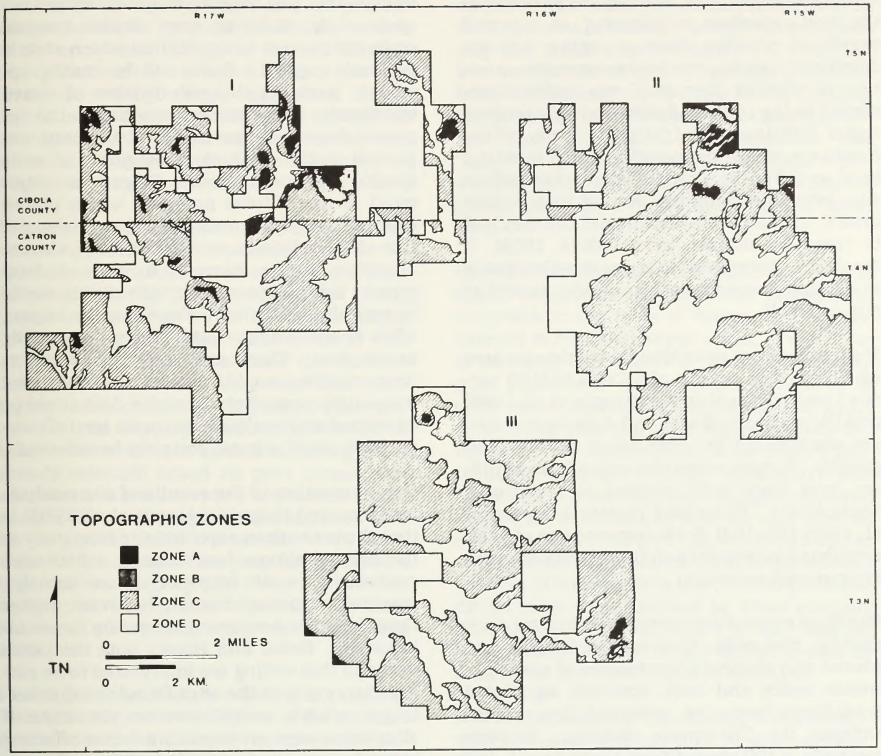


Figure 9.1: Topographic zones within the SACA cultural resource inventory areas (from Camilli et al. 1988)

We do have some good data that help. In addition to a topographic zone designation for every site, the recording procedures included the coding of categories of vegetative community and terrain. Soil data, although unavailable at the time of the original sample design, have since been published by the U.S. Soil Conservation Service (Johnson 1985), and all of the sites recorded could be assigned their proper soil classification for an additional level of zone refinement. The point being, that if all of these factors which experientially affect (or reflect) site placement were analyzed in concert, a more refined set of expectations for unsurveyed portions of the study area could no doubt be devised. At a practical level, however, this would not be feasible, nor very useful.

Even at our large-scale level of analysis, it can be seen that, to varying degrees, different classes of sites seem to covary with different topographic and vegetative settings. One can imagine the complexity of mapping loci where certain factors of each environmental variable intersect to create conditions likely to support the occurrence of a particular site type. When reduced to this scale, other practical matters

would come into play, such as the difficulty of the field recorders in guessing, in a mixed woodland, whether piñon or juniper was the dominant species, or the retrospective question of whether "benches" are under represented in the coding of sites and subsummed under "hillslopes" and "ridges." Such refinements are simply not possible at any practical level, and, like the fabled village of mapmakers who kept improving the map of their village until it reached a full-scale model and they had to move to another town (White 1959), it reaches a point where to know exactly what is in the unsurveyed areas, you might as well go out and look.

This study area completely encircles an area which was the subject of a Class III (100 percent) archeological survey (Hogan et al. 1985) and the methods of site and data recordation are similar and in some cases readily comparable. Future researchers may wish to utilize data from both studies in their own applications. Enloe and Hogan (in Hogan et al. 1985:175-194) draw comparisons of their completed survey data on three methods of environmental zonation.

Based on maps of topography, vegetative community, and soils, they have calculated expected and observed frequencies of site types within zones and have observed significant deviations from the expected frequencies utilizing the Chi-square statistic. In their methods, if 100 sites of Type A were found, and Zone One comprised 20 percent of the total acreage of their study area, the expected frequency of sites of Type A in Zone One is 20. If the actual number of sites of Type A recorded in Zone One was three, the Chi-square statistic was run at the 0.05 confidence level to determine if a significant difference existed between the expected and actual site frequencies. This procedure was followed for each of the three environmental parameters.

The results of this analysis support the notion that all sites to some extent are affected by all three variables, and that some site categories have a greater tendency to covary with certain variables. Although the results of their analysis appear similar to this study, direct comparison is not readily possible and should be noted for future researchers. The topographic and vegetative zones defined for each study, although very similar, contain some differences in application which should be made explicit. Some will be readily apparent, such as the sub-division of mixed woodlands, in our work, according to the apparent dominant species. But, the most important is the method of assigning sites to specific topographic zones. Hogan was interested in agricultural practices which placed sites in association with highly localized water run-off conditions at the base of slopes. Therefore, as we interpret it, sites on level ground but in association with slopes would be recorded as within a slope zone by Hogan, while it would appear as a valley bottom site in our data. These and other differences in data recording would have to be carefully (and manually) reconciled before the data could be combined and analyzed, but some level of compatibility could almost certainly be achieved.

One suggestion of the results of the analysis by Enloe and Hogan (in Hogan et al. 1985) is that the lower than expected site frequency in the valley bottoms (our Zone D, which also contains a low site frequency in our sample), may reflect actual human behavior, rather than the prime suspected secondary factor, alluviation. Enloe and Hogan note that sites found in this setting are interpreted to be earlier than many of the sites found in other settings, which would not be the case if alluviation were an important factor affecting valley bottom site frequencies. We would caution that alluviation is often a localized phenomena which could obscure certain types of sites, which might be located at the mouths of side drainages which may have been active in the past. This is simply to say that the possibility of hidden, subsurface resources is very real throughout most of the study area.

In her analysis of distributional patterns at the six percent sample level, Camilli et al. (1988: Chapter 4) discusses the adequacy of sample fractions within each zone and differences observed in apparent site frequencies and densities at a three percent interim analysis level and the six percent SACA sample.

Just as Camilli notes some major reversals in site and feature placement between topographic and vegetative zones in the com-

parison of the three percent and six percent sample levels, so do some conditions reverse at the completion of the 10 percent sample. One drastic example of this is "Prehistoric Features" sorted by terrain categories, where Camilli notes that more than half are located on ridges. At the 10 percent level, nearly half of the total **and over twice the frequency of ridges**, are located on hillslopes (Table 9.1).

To a certain extent, these rather drastic reversals in apparent site frequencies may be attributed to nonrandom selection of quadrats for survey during the various stages of the project which led up to the completion of the 10 percent sample. This has little to do with other factors of "nonrandomness" discussed in Chapter 5, but rather with logistical conditions during earlier phases of the project, when factors such as slippery road conditions forced field crews to seek out quadrats (among those already selected) based on pure access considerations in order for work to proceed. Thus, many of the quadrats yet to be completed after the six percent fraction were scattered, hard-to-get-to locations. This may have played a large role in "loading" the data for the four topographic zones, and especially the finer divisions of terrain, such as ridges and hillslopes.

A valid question, then, is whether the completion of the 10 percent sample and the addition of data from these "difficult" quadrats will stabilize the relative frequencies and derived mean densities, or if they would reverse again at higher sample levels. In a very tightly formed sampling strategy, statistics can be applied at this phase to calculate the sample fraction required within each zone. For reasons discussed in Chapter 5, we believe that this sample will not stand up to such precise scrutiny.

This is not to say that Camilli is not on the right track, however, when she suggests that the sample fractions from Zones A and B need to be substantially increased to reach a confidence level comparable to the other zones. This type of sample fraction (percentage of coverage within zones and statistics for their determination) has not been directly discussed in this report and reference should be made to Camilli et al. (1988: Chapter 4). We agree with Camilli that a much larger sample fraction (up to 50 percent in Zone A, which encompasses only 232 acres) may be required to bring the levels of confidence that archeological sites are fairly represented up to those of the spatially larger zones. It is also likely that Camilli is correct, based on informal reconnaissance, that "large" architectural sites may be under represented in Zone C. Camilli suggests alternative survey strategies for addressing the latter case.

Our agreement is not in contradiction with our earlier suggestion that there are probably no surprises in the form of "mega-sites" undiscovered in the unsurveyed areas. It is unlikely that sites of the order of "Cerro Prieto" have gone unnoticed. Nevertheless, sites of 15 or more rooms can be considered large in terms of scientific potential and mitigation costs and no doubt they remain to be found. Such structural sites may now be better represented with the addition of our "difficult" sample quadrats, since with substantially less acreage covered (four percent vs. six percent), the total number of rooms, total prehistoric structures, and the number of structures in the 15 to 50 room size range more than doubled in every category (258 to 651; 60 to 142; and 4 to 11). Also the predominate terrain feature shifted almost by a factor of two from ridges to hillslopes.

In the discussion of the results, it is useful to shift the analysis from sites to proveniences. Proveniences are subdivisions of a site which are identified by the field archeologists, based on several judgmental criteria, but which are a good measure of internal site complexity and composition. Separate proveniences may be defined in the field to indicate a spatial break between clusters of similar archeological material.

Examples include two assemblages of chipped stone divided by a dry wash, or two temporally distinct assemblages overlying each other, such as a modern trash scatter directly overlying the bases of prehistoric jacal structures. Proveniences are also designated within large, complex sites where components may or may not be contempory to afford closer spatial recordation of features and materials for later analysis. Size is not a criterion for proveniences; both sites and proveniences can be very

small, while many proveniences can be larger and more complex than many sites. Because proveniences reflect complexity at both the intra-site and study area levels, they will be employed here in favor of sites for the discussion of mean densities of archeological resources in the topographic zones.

Table 9.2 shows the calculated mean (average) densities of archeological proveniences within the known, surveyed sample units of each topographic zone. Note that many of the geographic quadrats contained more than one zone and the acreage of each zone has been calculated and recombined into 40-acre units for analysis (accounting for the decimal fractions of units for Zones A and B).

Since the samples for Zones A and B are under represented as noted earlier, little can be said about site types and densities within these zones that is "scientifically" based. What we can offer is a few subjective, experiential comments. Zone B consists of steep talus slopes surrounding all of the major elevated landforms in the study area (the tops of which are Zone A). Slopes in Zone B are greater than 20 percent and terrain of this type represents approximately 934 acres within the study area, or about two percent of the total land surface (obviously, somewhat more, because acreage is calculated in two dimensions; a vertical cliff would not have "zero land-surface" if you were stuck on a ledge in the middle of it). About 14 percent of the total acreage of Zone B is represented by the 3.2 sample units inventoried, giving a mean density of proveniences per 40 acres of 3.09.

Two prehistoric structural sites occur in the sample, one moderate-size (six- to 14-room) and one small (two- to five-room) structure, both of which occur at the talus base. The remaining proveniences of Zone B consist of prehistoric scatters, hearths (predominately undefined ash and firecracked rock), and five indeterminate rubble features. Most of these features can be seen in the tables that follow to correspond to terrain categories of benches, saddles, talus bases, and cliff bases. At the risk of employing a "camper mentality" in archeology, this makes sense because it is unlikely that anyone in the past was any more likely to build a fire or process gathered materials on a true rock talus, standing at the angle of repose, than we are. So, the density of proveniences within Zone B, talus slopes, is probably a function of the number of places within the zone which are not true talus (i.e., benches and lesser slopes) and an artifact of recording (i.e., how far does a site have to be from the talus base before it hits Zone D?). To continue, subjectively, the site types recorded in the sample fraction are probably a good representation of the zone. There can always be surprises.

If the well-documented, but archeologically nearly invisible Navajo/Apache occupation of this region is going to turn up, it may well be on hidden, southerly exposed benches in this zone. But, unless real surprises await, the provenience types and densities suggested at this statistically imperfect level, are probably not far wrong.

Zone A may be a good deal trickier. It consists of the elevated, relatively flat tops of mesas, ridges, and buttes, isolated from the surrounding countryside by steep talus (Zone B). This zone comprises only one-half of one percent of the total study area, or 232 acres. Although the 1.4 survey units in Zone A represent 24 percent of the total zone, the apparently skewed provenience density is difficult to interpret, even in the absence of normal caution. Experientially, the landform that comprises Zone A is the least given to uniformity in the archeological record, and the most given to unique occurrences that are impossible to control in any statistical scheme.

At first glance, the calculated provenience density of 9.19 per 40 acres appears high, but to the extent that this represents rim margins, a high density should be expected; interior samples of larger landforms should probably drop off. A subdivision of Zone A, as suggested earlier for Zone C, might be fairly simple, utilizing an arbitrary 100 meter rim margin, so that isolated buttes and similar features 200 meters or less on axis would be pure Zone A, while interiors of massive structures such as Santa Rita Mesa would be something else.

This sub-division of the zone should reflect a relatively high site density along rim margins and on isolated, elevated features, and a

Table 9.1: Prehistoric Features by Terrain

Terrain	Hearths	Ash/ FCR	Middens	Pit Structures	Water Control Features	Rock Art	Rubble Features	Other Features	Total Features
Arroyo/Wash	-	2	-	-	4	-	-	1	7
Flood/Valley	-	-	1	-	-	-	-	0	1
Plain/Flat	2	-	-	-	-	-	1	-	3
Canyon Floor	-	1	-	-	-	-	-	-	1
Low Rise	1	12	12	2	-	-	5	2	34
Ridge	20	80	20	19	-	-	22	10	171
Saddle	1	17	1	-	-	-	1	2	22
Talus Base	3	2	12	-	1	-	-	2	20
Bench	1	5	1	-	-	-	-	0	7
Cliff Base	-	1	2	-	3	6	-	2	14
Cliff/Scarp	-	3	2	-	-	2	-	1	8
Mesa	5	14	2	1	5	0	5	1	33
Hill Top	12	20	26	4	-	-	12	12	86
Hill Slope	41	118	106	11	26	7	21	42	356
Talus	-	-	-	-	-	-	-	0	-
Total	**86**	**275**	**185**	**37**	**39**	**15**	**67**	**75**	**763**

Table 9.2: Provenience Densities per 40 Acres by Topographic Zone in the 10 Percent Sample

	Prehist. Features Mean	Prehist. Struc. Mean	Prehist. Str/Feat. Mean	Lithic Scatters Mean	Ceramic Scatters Mean	L/C Scatters Mean	Historic Only Mean	Historic Struc. Mean	Total Survey All Types Mean	Total Survey Units Max
Topographic Zone										
A	4.95	-	-	2.12	-	2.12	-	-	9.19	1.4
B	1.54	0.31	0.31	0.31	-	0.62	-	-	3.09	3.2
C	2.14	0.45	1.56	0.26	0.04	0.38	0.10	0.09	5.03	70.0
D	0.43	0.09	0.34	0.06	-	0.17	0.03	0.23	1.34	34.0

moderate to low density for interiors. A final caution in interpreting the data for Zone A is that while provenience density is high, site complexity of this sample is low, offering the suggestion that Zone A may present no great problem for future mitigation.

We should re-emphasize that if there are to be any big surprises in cultural resources in the study area, Zone A is a likely place for them to occur, either in the form of unexpectedly large sites, defensive sites, or perhaps in archeologically invisible localities of current traditional Indian religious significance, which will be discussed in a later section.

With all the caveats presented earlier, the mean densities of proveniences per 40 acres for Zones C and D probably approach a reasonable confidence level. So, with all this in mind, some simple mathematics can be applied to view what all this means in terms of the entire Moderate Production Area (Table 9.3).

Table 9.3: Expected Provenience Densities by Zone.

Zone	Units		X Density		Expected Prov.
A	5.8	X	9.19	=	53
B	23.35	X	3.09	=	72
C	668.175	X	5.03	=	3,361
D	361.675	X	1.34	=	485
Total					3,971

On the average, the recorded sites represent about 2.08 proveniences each, so Table 9.3 offers the rough suggestion that about 1,909 sites may be expected within the Moderate Production Area. The shift to "sites" here is for comparison with the "rule-of-thumb" for New Mexico that about 10 sites per square mile can be expected as an average for the state. When converted to square miles within the study area, this comes to about 28.4 sites per square mile for the SACA, nearly three times the average.

We have identified where error could creep into the factors used in these calculations, but clearly, even if the error is 30 percent, provenience densities in the study area are very high. We assume error toward higher densities, since all of the biases which we were able to identify in the sample design are inclined in that direction.

With all the benefit of hindsight, a sampling strategy which may have led to greater confidence levels at this phase of analysis might have used the three geographically separate portions of the Moderate Production Area as first-level divisions of the landscape universe, and then defined the sample fractions of zones within each portion.

Just as we notice differences of zone and archeological composition between our sample and Hogan's inventory (which was centered in the middle of our three study area units) (Hogan et al. 1985), so would differences in zone composition and prehistoric and historic use be observable between the three geographically distinct sub-areas of the Moderate Production Area.

We would expect to see significant variation in archeological composition in the easternmost portions of the study area, toward drainage headwaters and the Continental Divide, and other portions, even though zone composition may be similar.

Thus, the calculations above, rough as they are, are for the entire Moderate Production Area. If individual coal leases are defined in the three sub-areas, significant differences in archeological assemblage composition can be expected from the provenience density means of the 10 percent sample.

However, within a given lease, it would not be unreasonable to calculate the composition of topographic zones as defined for this study, and formulate a general set of expectations for the types and densities of archeological remains which may occur within a particular lease. Where quadrats of this study coincide with future leases, known sites can be taken into account. These known resources and general expectations can be used to formulate a more effective research design for Class III survey and mitigation than could be accomplished for this Class II sample inventory.

Chapter 10

Conclusions

The 10 percent sample inventory of the SACA Moderate Production Area addressed the six goals stated in Chapter 1:

1. The data recordation process designed by our predecessors in this project has produced a large body of consistent, relevant data now "up and running" in computer formats for immediate and future scientific use.

2. Through interpretation of the data (Camilli et al. 1988; and here), we have a more enlightened perspective of the types and densities of cultural resources to be expected in certain topographic settings within the Moderate Production Area than could have been garnered from unrelated previous work.

3. BLM management and potential coal lease operators can be provided a reasonable basis for expectations of site types, densities, and complexities (i.e. mitigative expense), which are of a scale to be given very serious consideration in the future.

4. Known site concentrations in the area of highest coal production potential, which are of sufficient archeological complexity to warrant special consideration, were identified.

It is stressed that the existence of such site complexes in unsurveyed portions cannot be confidently projected.

5. The 40-acre quadrats subject to inventory survey for the Class II sample study have been investigated at a sufficient level of detail to stand as Class III inventories of the specific plots as future Class III inventories are designed in the area in the future.

6. This study and the adjoining study (Hogan et al. 1985) can provide the basis for an interpretive framework to tie together future archeological efforts (Class III surveys and mitigation), which may be conducted by different leasees, employing different archeological contractors over a considerable time frame.

Although we identified biases in the original sampling plan which we believe lead to conclusions of high site densities, the observed site and provenience densities within the now known 40-acre quadrats present an undeniable case for the conclusion that archeological resources within the Moderate Production Area are exceptionally dense in certain settings and of high density for the study area as a whole.

Employing only rough averages for an impression of scale, the Moderate Production Area consists of 43,080 acres, or about 67.3 square miles. The observed densities of proveniences within all zones result in calculations of nearly 4,000 proveniences within the total 67.3 square miles. This, again in the roughest of terms, presents a site density of about 28 sites per square mile, nearly three times the "rule-of-thumb" for New Mexico, but not at all unusual when "high-site-areas" are encountered. What must be considered in concert with the magnitude of the physical archeological remains are the importance and complexity of the anthropological questions which must be addressed through their future investigation.

The study area lies geographically near the center of a region that has long been viewed, on the basis of comparatively little data, as one of cultural overlap between distinct and (inde-

pendently) fairly well-studied "cultures." What is remarkable, and poses exciting potential for study, is that this apparent condition exists not for one cultural sub-period, but for virtually the entire sequence of human occupation for which there is archeological evidence.

The opportunities for research range from transitions from PaleoIndian lifeways to Early Archaic (Honea and Benham 1963), and to Cochise/Oshara and Mogollon/Anasazi adaptive transitions. With the attention now being given to the region, archeological thinking, model building, and resulting research is in a rapid state of flux.

Kayser's comparison of ceramics (Chapter 8) of the SACA and sites in the mountainous region just a few miles south supports our impression and that of previous workers (Hogan et al. 1985), that the cultural tradition in the SACA region is basically Anasazi, with some Mogollon attributes. What we hope the body of data will now lay to rest is the notion that the prehistoric agricultural population of the Upper Little Colorado was composed of either Anasazi or Mogollon "away from home."

Much remains to be explained when sites are intensively investigated, but clearly this region was "home," for many generations, to a substantial population. Not enough is known about pre-agriculturalists in the region to support a particular model, but evolution of groups who at least utilized the region during Archaic times must be weighed against models of intact cultural importation (mitigation) from northern or southern culture areas. No model can be strongly supported or disproved soley on the basis of surface ceramic studies. Models must await broad-spectrum analysis through excavation data.

Whether an indigenous hunter/gatherer population evolved and expanded in place or was joined or displaced by migrants, it is clear that once established, the agricultural population of the region was successful for about 800 years in adapting to a changing environment. During the early- to mid-1300s (A.D.), the adaptive range was exceeded and the region was abandoned for 500 years until reoccupation during modern times. Questions of the relationships between the prehistoric agriculturalists of the Upper Little Colorado with equally densely populated regions to the north and south (cf. Tainter and Gillio 1980) and with modern Zuni Pueblo remain open.

Contemporary Cultural Resources

Kelley has provided an overview of concepts, issues, and some specific cases of sites and locations of current significance to traditional Indian religious belief in and near the SACA (see Kelley 1988). Effects upon such sites by federal actions such as coal leasing must be considered in accordance with the American Indian Religious Freedom Act (AIRFA; P.L. 95-431).

The study area lies within the traditional or historic land use areas of the Zuni, Acoma, Apache, and Navajo tribes. Traditional beliefs related to the region by the people of Acoma Pueblo and Apache groups are not clearly documented, but they should be considered along with beliefs and uses of more distant cultures which may be associated with such features as Zuni Salt Lake. Ethnographic investigations of effects of land-disturbing projects have shown that the majority of sites of traditional religious significance are not observable in the archeological record (Carroll 1982).

Therefore, ethographic documentation of archeological sites following an archeological survey (Doyel and Debowski 1980) will not adequately address the issue. A classificatory scheme for sites of traditional Navajo belief has been suggested (Carroll 1982) as a conceptual framework for viewing related issues which may, at a very general level, be applied to other cosmologies.

Under this scheme, sites can be viewed in categories ranging from "Origin Related," where the majority of the population would recognize such sites as an integral part of the origin of their people, to locations of "Acquired" significance where acts of people in this world resulted in significance which may be known only to an individual or small group of initiated, but which could be recognized as a class of significance by most of those who share the same cosmology.

Kelley's review of the literature and limited direct consultations show that sites of the first order, "Origin Related" sites, occur close to the study area, and the probability of sites of all classes is high within the study region. The tribal group with the best documented ties to the region is Zuni Pueblo and an excellent introduction to some traditional Zuni concepts which relate to these issues was recently published (Ferguson and Hart 1985). Information sources for other tribal groups with traditional ties to the region are provided by Kelley (1988).

Although the subject is different, Kelley's work on these issues should also be viewed as a "sample", like the archeological quadrat survey, which shows that important issues exist to be resolved by future work. The outcome of future work may well be the identification of presently unforeseen locations which should be excluded from coal mining on the basis of protection under AIRFA (USDI, BLM 1988:M-15).

Unlike the management of archeological resources which can be effectively studied by a number of archeological contractors working under numerous distinct but complimentary research designs, the management of sites of religious or cultural importance requires a different approach. If for no other reason, different researchers concerned with adjacent sub-regions would swamp the affected tribes with requests for information.

Some plan for a unified approach to these issues should be devised. One equitable approach might be a stipulation of coal leasing which would provide a proportionate contribution to an ethnographic research design to encompass the entire production area.

Chapter 11

Application of Multiple-Use Screens in the Maximum Production Potential Area

The Draft Resource Management Plan, Socorro Resource Area (USDI, BLM 1988: Appendix M) presents a refinement of planning for the SACA. An initial screen (set of criteria) was applied which addresses the economic potential of the coal reserve. In order to remain in consideration, portions of the SACA must meet one of the following criteria:

> **Strippable reserve-base** – a correlatable coal seam at least 2.3 feet thick, deeper than 20 feet and shallower than 15 to one stripping ratio, with a maximum depth of 250 feet.
>
> **Underground minable reserve base** – a correlatable seam at least five feet thick and beyond the 15 to one stripping ratio limit.

The application of this economic screen, based upon recent drilling and geophysical data, reduced the area under consideration by 90 percent, from 293,930 acres to 28,680 acres. Figure 11.1 illustrates the planning steps that were applied during the RMP/EIS process to arrive at a set of alternatives for coal development.

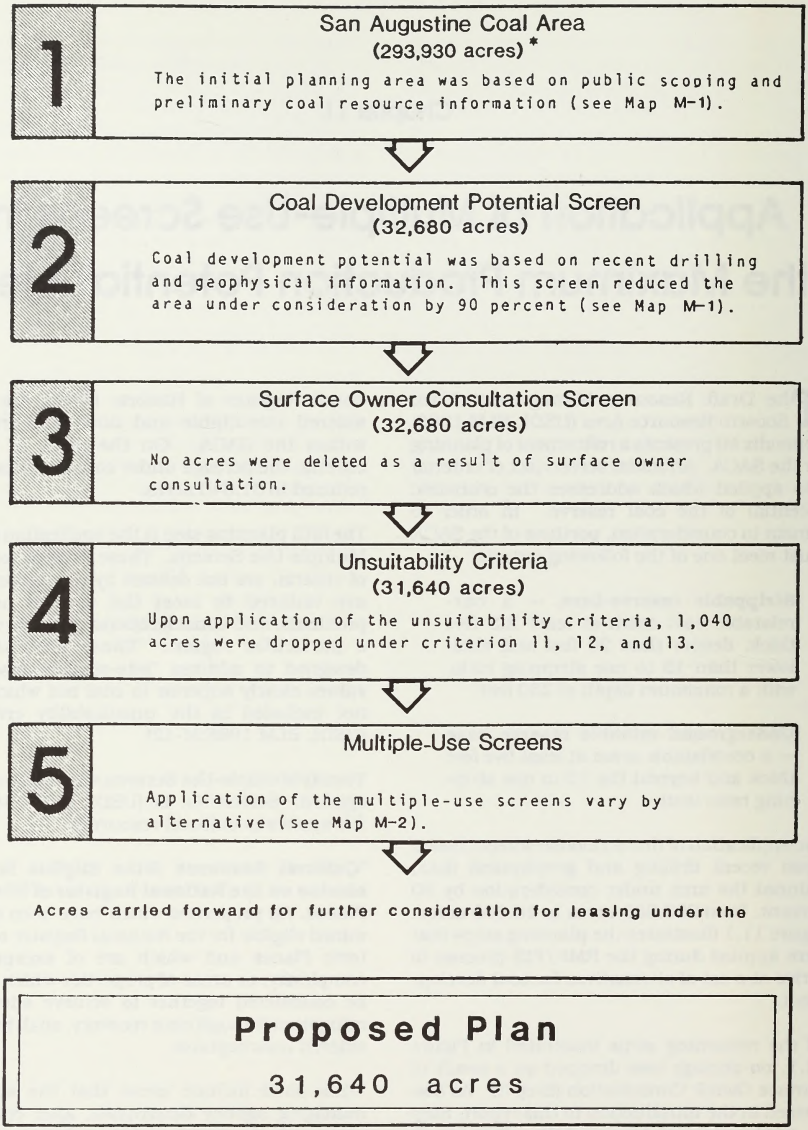
Of the remaining steps illustrated in Figure 11.1, no acreage was dropped as a result of Surface Owner Consultation (Step 3). As discussed in the introduction to this report, Step 4, application of Unsuitability Criteria is prescribed and defined by regulation (43 CFR 3461.1). Under these revised regulations, only cultural properties currently listed on the National Register of Historic Places are considered unsuitable and none are present within the SACA. On the basis of other criteria, the acreage under consideration was reduced to 31,640 acres.

The fifth planning step is the application of the Multiple-Use Screens. These screens, or sets of criteria, are not defined by regulation, but are tailored to meet the special needs, problems, and considerations of resources in a particular region. These screens are designed to address "site-specific resource values clearly superior to coal but which are not included in the unsuitability criteria" (USDI, BLM 1988:M-12).

Twenty Multiple-Use Screens were defined and applied. Screen No. 12 (USDI, BLM 1988:M-15) applies to cultural resources:

"**Cultural Resource Sites Eligible for Inclusion on the National Register of Historic Places**. All properties which have been determined eligible for the National Register of Historic Places and which are of exceptional complexity, or areas of properties which must be considered together to achieve adequate mitigation through data recovery, shall be considered unacceptable.

"This shall include areas that the surface managing agency determines, after consultation with the SHPO and the Advisory Council on Historic Preservation, are necessary to protect the inherent values of the property that made it eligible for the National Register.



* All acre figures represent the affected Federal coal

Figure 11.1: Application of coal land-use planning screens for impact analysis.

"Prior to approval of surface disturbing activities, Class III inventories will be conducted and subsequent mitigation of impacts will be required on all National Register eligible sites. Consultation between BLM, OSM, and SHPO will occur to determine if newly recorded sites are eligible for inclusion in the National Register. If adequate mitigating measures for impacts to these sites cannot be developed, the sites and appropriate buffer zones will not be surface mined or allowed to be disturbed by underground mining activities.

"**Analysis:** No individual sites of extraordinary internal complexity are presently known within the maximum coal development potential area. However, 11 areas of properties, which together pose exceptional challenges to adequate mitigation, are known. These total 1,340 acres unacceptable for coal mining.

"**Exceptions**: Coal mining may be allowed if after consultation with the SHPO and the Advisory Council on Historic Preservation, measures for mitigation of impacts are approved by the surface managing agency and where appropriate, the agency or landowner with jurisdiction over the site(s)."

In application, the Multiple-Use Screens can differ under the different alternatives analyzed by the Draft Resource Management Plan. Four "Alternatives," each representing broad management objectives, were posed and analyzed.

Alternative A represents a continuation of current management practices (thereby constituting the "no action" alternative of the Environmental Impact Statement process); Alternative B was posed as a "balanced" approach, whereby the need for resource development (minerals, coal, wood products, etc.) would be balanced with the needs of resource conservation (wildlife, cultural, recreation values, etc.); under Alternative C, "conservation" would be stressed over development; and under Alternative D, development would be stressed over conservation.

Under no alternative would cultural resource protection be circumscribed, but, for example, under "D," protection would be afforded to sites throughout the Resource Area through the 106 process rather than designations such as Special Management Areas.

The known sites recorded by the Class II inventory were reviewed within the area of maximum production potential. It was found that no individual site of extraordinary complexity, such as the Cerro Prieto site which was discussed in this context in Chapter 9, is presently known in the study area.

Additionally, no associations of sites in the presently surveyed areas are of such complexity as to exceed the state-of-the-art ability to conduct well-devised and meaningful mitigative data recovery. However, a number of locations of relatively high densities of temporally related or sequential sites are present and these were identified under the cultural resource screen as areas that should be given special consideration in developing mitigation measures. A total of 1,340 acres are identified as shown on Figure 11.2 (USDI, BLM1988).

As a result of interest during the RMP public comment period, approximately 4,000 acres of lands amenable to underground coal mining were added to the maximum development potential area and the additional lands were reviewed under the Multiple-Use Screens. Underground coal mining presents greater potential for adjustments in location of facilities than strip mining, which would anticipate total surface disturbance. Therefore, the cultural resource screen can be applied somewhat less rigorously than would be the case for strip mining. If strip mining were proposed in the additional acreage, the NW/4 of Section 19, T.3 N. R.16W. would be identified under the cultural resource screen, on the basis of the diversity of site types within an area of relatively high density. However, with that notation, no additional acreage is recommended for conditional exclusion under the screen.

A major theme throughout this report has been the purpose, goals, and limitations of Class II Inventories. The application of the cultural resource multiple-use screen is based solely upon those portions of the study area which have been subject to survey at the Class III level. When a Class III Inventory has been completed for the entire area that may be mined, not only will additional sites and areas

of local densities become known, but the perspective of site interrelationships and complexity will no doubt evolve with the increased knowlege.

While the overall sample accomplished by this Class II Inventory provides a valid 10 percent sample of the Moderate Production Area (Chapter 5), the surveyed quadrats within the area of maximum production potential are not necessarily representative in any projectible way of the smaller planning unit. However, the known sites within the smaller unit and the general expectations discussed in Chapter 9 have served the purposes of planning, which has now entered its final stage.

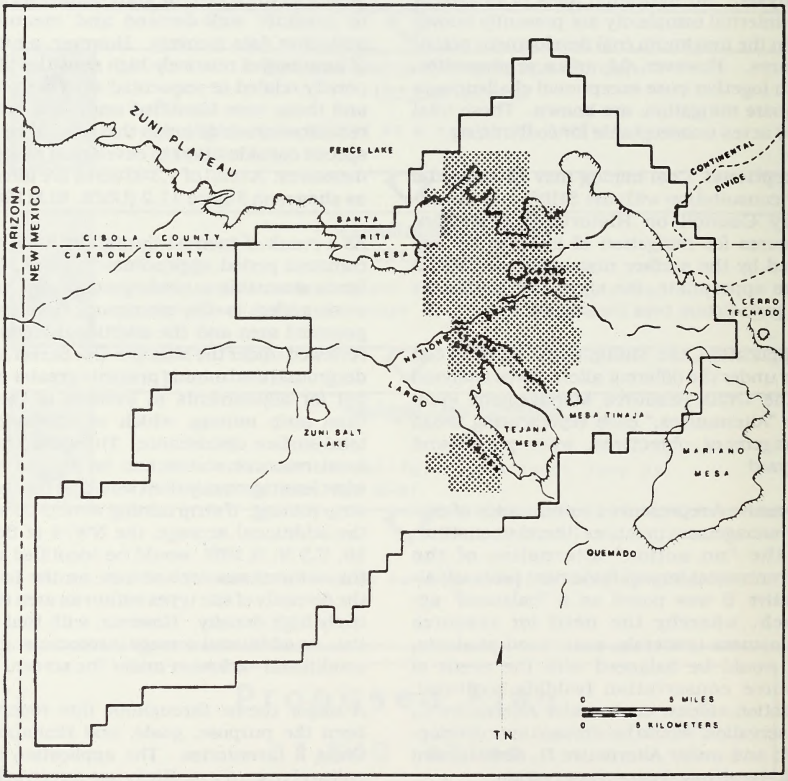


Figure 11.2: SACA area of greatest economic potential.

Appendix 1

Site/Architecture: General Observations

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVATION	EXPOSURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
1	1	157	L/C SCAT	D	HILL SLOPE	J-P WOOD	6940	E	900	.	.	.
2	1	133	L-SCAT	C	RIDGE	J-P WOOD	6780	N	40	.	.	.
3	1	157	L/C SCAT	C	HILL SLOPE	P-J PARK	6960	SE	2500	.	.	.
9	1	153	L-SCAT	C	LOW RISE	P-J WOOOD	7060	UNK	.	.	.	.
185	1	0	P-H STR/FT	C	RIDGE	J-P WOOD	6640	360	29600	7	1	23
225	1	153	L/C SCAT	C	LOW RISE	P-J WOOOD	7060	SE	1220	.	.	.
226	1	153	P-H FEATS	C	RIDGE	P-J WOOOD	7070	NE	560	2	.	.
227	1	150	P-H STR/FT	C	RIDGE	P-J WOOOD	7060	SE	1350	1	.	8
228	1	150	P-H STR/FT	C	RIDGE	P-J WOOOD	7050	N	1000	3	.	5
229	1	163	L/C SCAT	C	RIDGE	P-J WOOOD	6880	NE	800	.	.	.
229	2	163	L/C SCAT	C	RIDGE	P-J WOOOD	6880	NE	1200	.	.	.
230	1	163	P-H FEATS	C	LOW RISE	P-J PARK	6900	SE	1250	1	.	.
231	1	163	P-H FEATS	C	ARROYO/WASH	P-J WOOOD	6940	SE	900	4	.	.
232	1	163	L/C SCAT	C	TALUS	P-J WOOOD	6940	NE	2500	.	.	.
232	2	163	L/C SCAT	C	MESA	P-J WOOOD	6960	360	2500	.	.	.
233	1	163	P-H STR/FT	C	TALUS BASE	P-J PARK	6920	S	1000	1	.	9
234	1	163	P-H STRS	C	TALUS BASE	P-J WOOOD	6930	S	135	.	.	2
234	2	163	P-H FEATS	C	TALUS BASE	P-J WOOOD	6930	S	100	1	.	.
234	3	163	P-H FEATS	C	TALUS BASE	P-J WOOOD	6930	S	4500	1	.	.
235	1	163	P-H STR/FT	C	LOW RISE	P-J PARK	6920	S	1500	1	.	15
236	1	133	P-H FEATS	C	RIDGE	J-P WOOD	6780	N	25	3	.	.
237	1	133	P-H FEATS	C	RIDGE	J-P WOOD	6800	SE	3400	5	.	.
238	1	133	P-H FEATS	C	RIDGE	J-P WOOD	6780	E	1012	3	.	.
239	1	133	P-H STRS	C	RIDGE	J-P WOOD	6710	E	900	.	.	1
240	1	133	L/C SCAT	C	RIDGE	J-P WOOD	6780	NE	30	.	.	.
240	2	133	L-SCAT	C	RIDGE	J-P WOOD	6780	NE	270	.	.	.
240	3	133	L-SCAT	C	RIDGE	J-P WOOD	6780	NE	125	.	.	.
241	1	133	L/C SCAT	C	RIDGE	P-J WOOOD	6780	E	1575	.	.	.
242	1	133	L/C SCAT	C	HILL SLOPE	SCRUB	6740	N	325	.	1	.
242	2	133	HIST FEA/SCAT	C	HILL SLOPE	SCRUB	6740	N	1000	.	1	.
243	1	133	P-H FEATS	C	HILL SLOPE	J-P WOOD	6750	N	8055	3	.	.
244	1	554	L/C SCAT	D	FLOOD/VALLEY	GRASS	6820	360	480	.	.	.
245	1	230	P-H FEATS	C	RIDGE	J-P WOOD	6840	N	7280	3	.	.
246	1	230	P-H FEATS	C	HILL SLOPE	J-P WOOD	6840	N	11700	6	.	.
246	2	230	P-H FEATS	C	RIDGE	J-P WOOD	6860	S	45	1	.	.
247	1	546	P-H STR/FT	D	RIDGE	P-J PARK	6890	E	625	1	.	2
247	2	546	P-H FEATS	D	RIDGE	P-J PARK	6890	E	225	2	.	.
248	1	546	P-H STR/FT	D	RIDGE	P-J PARK	6885	SE	3600	1	.	7
249	1	546	L-SCAT	D	RIDGE	P-J PARK	6970	S	200	.	.	.
250	1	546	L/C SCAT	D	LOW RISE	P-J PARK	6970	S	1000	.	.	.
251	1	545	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	6990	S	1000	2	.	1
252	1	406	P-H FEATS	C	CLIFF/SCARP	J-P WOOD	6920	360	3900	3	.	.
253	1	406	P-H STR/FT	C	RIDGE	P-J WOOOD	6940	E	1000	3	.	3
254	1	414	P-H FEATS	D	LOW RISE	SCRUB	6890	360	805	1	.	.
255	1	414	P-H STRS	D	LOW RISE	SCRUB	6890	W	3600	.	.	1
256	1	414	HIST STRS	D	HILL SLOPE	P-J PARK	6940	S	100	.	.	1
257	1	0	P-H FEATS	C	CLIFF/SCARP	P-J WOOOD	6900	W	150	2	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVATION	EXPOSURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
258	1	49	L-SCAT	C	RIDGE	P-J WOOOD	7100	360	360000	.	.	.
259	1	467	HIST STRS	C	HILL SLOPE	P-J WOOOD	6790	E	900	.	1	1
260	1	359	L/C SCAT	C	TALUS	GRASS	6700	N	1350	.	.	.
261	1	281	L/C SCAT	D	LOW RISE	GRASS	6925	N	208	.	.	.
262	1	0	P-H STRS	D	RIDGE	P-J WOOOD	6930	E	1350	.	.	4
263	1	0	P-H STR/FT	D	HILL SLOPE	GRASS	6960	SE	7000	1	.	47
263	2	0	P-H STR/FT	D	HILL SLOPE	GRASS	6960	SE	2500	1	.	9
263	3	0	P-H STR/FT	D	HILL SLOPE	GRASS	6960	SE	2500	1	.	0
264	1	520	P-H FEATS	C	RIDGE	J-P WOOD	6830	SW	900	1	.	.
264	2	520	P-H FEATS	C	RIDGE	J-P WOOD	6830	SW	100	1	.	.
265	1	520	P-H FEATS	C	RIDGE	J-P WOOD	6820	S	3500	1	.	.
266	1	515	P-H FEATS	C	LOW RISE	GRASS	6790	360	100	1	.	.
266	2	515	P-H STR/FT	C	LOW RISE	GRASS	6790	360	1500	5	.	0
267	1	515	P-H FEATS	C	RIDGE	J-P WOOD	6835	N	3200	2	.	.
268	1	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	360	21	1	.	.
268	2	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	N	63	1	.	.
268	3	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	N	169	1	.	.
268	4	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	E	9	1	.	.
268	5	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	E	9	1	.	.
268	6	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	E	88	1	.	.
268	7	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	12	1	.	.
268	8	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	56	1	.	.
268	9	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	36	1	.	.
268	10	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	4	1	.	.
268	11	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	4	1	.	.
268	12	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	16	1	.	.
268	13	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	36	1	.	.
268	14	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	16	1	.	.
268	15	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	8	1	.	.
268	16	520	P-H FEATS	C	RIDGE	J-P WOOD	6850	S	8	1	.	.
268	17	520	C-SCAT	C	RIDGE	J-P WOOD	6850	W	1	.	.	.
269	1	520	P-H FEATS	C	RIDGE	P-J WOOOD	6830	S	100	1	.	.
269	2	520	HIST FEA/SCAT	C	RIDGE	P-J WOOOD	6830	S	1600	.	1	.
270	1	438	L/C SCAT	C	RIDGE	P-J WOOOD	6960	NW	100	.	.	.
270	2	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	NW	2250	2	.	0
270	3	438	P-H STRS	C	RIDGE	P-J WOOOD	6960	360	.	.	.	1
270	4	438	L/C SCAT	C	RIDGE	P-J WOOOD	6960	360	200	.	.	.
270	5	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	360	1500	1	.	2
270	6	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	W	10000	0	.	0
270	7	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	SW	.	1	.	3
270	8	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	SW	.	0	.	0
270	9	438	P-H STRS	C	RIDGE	P-J WOOOD	6960	NE	2750	.	.	5
270	10	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	W	900	0	.	0
270	11	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	W	1600	0	.	5
270	12	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	W	1400	7	.	0
270	13	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	NW	800	0	.	0
270	14	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	NW	400	0	.	0

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVATION	EXPOSURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
270	15	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	NE	5000	0	.	0
270	16	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	NE	400	0	.	0
270	17	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	360	4000	4	.	0
270	18	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	360	8000	8	.	2
270	19	438	P-H FEATS	C	RIDGE	P-J WOOOD	6960	W	140	1	.	.
270	20	438	P-H STR/FT	C	RIDGE	P-J WOOOD	6960	360	10000	2	.	36
270	21	438	P-H STRS	C	RIDGE	P-J WOOOD	6960	360	400	.	.	2
270	22	438	P-H STRS	C	RIDGE	P-J WOOOD	6960	360	1800	.	.	2
271	1	0	HIST STRS	C	RIDGE	P-J PARK	7060	S	8800	.	13	5
272	1	187	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7050	NW	2500	1	.	.
273	1	187	P-H STR/FT	C	HILL TOP	P-J WOOOD	7060	360	35	2	.	2
273	2	187	P-H STRS	C	HILL TOP	P-J WOOOD	7060	360	54	.	.	2
273	3	187	P-H STRS	C	HILL TOP	P-J WOOOD	7060	360	42	.	.	1
273	4	187	P-H FEATS	C	HILL TOP	P-J WOOOD	7060	360	500	2	.	.
274	1	187	P-H FEATS	C	RIDGE	P-J WOOOD	7080	SW	28000	14	.	.
275	1	187	P-H STRS	C	HILL SLOPE	P-J WOOOD	7100	NW	60	.	.	1
275	2	187	P-H STRS	C	HILL SLOPE	P-J WOOOD	7100	NW	36	.	.	1
275	3	187	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7100	NW	100	1	.	4
276	1	187	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7120	N	7700	11	.	.
277	1	187	L/C SCAT	C	HILL SLOPE	P-J WOOOD	7110	NE	2275	.	.	.
278	1	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	450	1	.	.
278	2	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	250	1	.	.
278	3	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	110	2	.	.
278	4	187	L-SCAT	C	SADDLE	P-J WOOOD	7130	N	36	.	.	.
278	5	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	96	1	.	.
278	6	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	90	1	.	.
278	7	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	63	1	.	.
278	8	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	1	1	.	.
278	9	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	240	1	.	.
278	10	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	6	1	.	.
278	11	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	72	1	.	.
278	12	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	15	1	.	.
278	13	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	8	1	.	.
278	14	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	4	1	.	.
278	15	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	4	1	.	.
278	16	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	4	1	.	.
278	17	187	P-H FEATS	C	SADDLE	P-J WOOOD	7130	N	160	0	.	.
279	1	187	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7150	SE	1750	1	.	1
280	1	191	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7120	SE	1200	4	.	6
280	2	191	P-H STRS	C	HILL SLOPE	P-J WOOOD	7120	SE	900	.	.	2
280	3	191	P-H STRS	C	HILL SLOPE	P-J WOOOD	7120	SE	100	.	.	6
280	4	191	P-H STRS	C	HILL SLOPE	P-J WOOOD	7120	SE	100	.	.	2
280	5	191	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7120	SE	1800	11	.	.
281	1	191	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7120	S	506	1	.	.
281	2	191	P-H STRS	C	HILL SLOPE	P-J WOOOD	7120	S	432	.	.	0
282	1	140	HIST FEA/SCAT	C	HILL SLOPE	P-J PARK	6820	E	2000	.	3	.
283	1	140	L-SCAT	A	MESA	P-J PARK	6885	360	1220	.	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVATION	EXPOSURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
290	1	0	P-H STR/FT	B	RIDGE	P-J WOOOD	7130	N	3600	1	.	4
291	1	40	P-H STR/FT	B	RIDGE	P-J WOOOD	7160	E	648	1	.	14
291	2	40	P-H FEATS	B	RIDGE	P-J WOOOD	7160	N	1020	4	.	.
291	3	40	P-H FEATS	B	RIDGE	P-J WOOOD	7160	W	640	1	.	.
292	1	40	L/C SCAT	B	RIDGE	P-J WOOOD	7220	N	225	.	.	.
293	1	40	P-H FEATS	B	RIDGE	P-J WOOOD	7260	N	903	1	.	.
293	2	40	L/C SCAT	B	RIDGE	P-J WOOOD	7260	N	266	.	.	.
294	1	40	P-H FEATS	B	RIDGE	P-J WOOOD	7260	S	4500	10	.	.
295	1	40	P-H FEATS	B	RIDGE	P-J WOOOD	7220	S	300	2	.	.
296	1	40	P-H STRS	B	RIDGE	P-J WOOOD	7240	360	1050	.	.	2
311	1	533	P-H FEATS	C	RIDGE	P-J WOOOD	7001	E	1600	4	.	.
311	2	533	P-H FEATS	C	RIDGE	P-J WOOOD	7001	360	150	2	.	.
311	3	533	L/C SCAT	C	RIDGE	P-J WOOOD	7001	N	200	.	.	.
312	1	533	P-H FEATS	C	RIDGE	J-P WOOD	6920	E	600	3	.	.
313	1	442	L/C SCAT	C	RIDGE	P-J PARK	6900	SE	1000	.	.	.
314	1	442	P-H STR/FT	C	RIDGE	J-P WOOD	6900	E	1350	1	.	7
315	1	442	HIST FEA/SCAT	C	ARROYO/WASH	P-J WOOOD	6920	NE	150	.	1	.
316	1	442	P-H FEATS	C	RIDGE	P-J WOOOD	6920	N	400	1	.	.
317	1	442	L/C SCAT	C	RIDGE	P-J WOOOD	6920	E	600	.	.	.
318	1	538	P-H STRS	D	FLOOD/VALLEY	GRASS	6880	360	130	.	.	2
319	1	538	L/C SCAT	C	RIDGE	P-J WOOOD	6900	N	1050	.	.	.
320	1	538	HIST STRS	D	FLOOD/VALLEY	GRASS	6880	360	400	.	1	1
321	1	418	P-H STRS	C	RIDGE	J-P WOOD	6820	360	1400	.	.	2
321	2	418	HIST FEA/SCAT	C	RIDGE	J-P WOOD	6820	360	400	.	2	.
322	1	416	L/C SCAT	C	CANYON FLOOR	P-J PARK	6850	N	700	.	.	.
322	2	416	L-SCAT	C	CANYON FLOOR	P-J PARK	6850	N	4000	.	.	.
322	3	418	L-SCAT	C	CANYON FLOOR	P-J PARK	6850	N	750	.	.	.
322	4	418	L-SCAT	C	CANYON FLOOR	P-J PARK	6850	N	2500	.	.	.
323	1	416	HIST STRS	D	CANYON FLOOR	P-J PARK	6920	S	450	.	.	1
324	1	331	P-H FEATS	D	HILL SLOPE	GRASS	6950	W	1400	1	.	.
325	1	332	L/C SCAT	D	HILL SLOPE	P-J PARK	6935	S	1050	.	.	.
326	1	0	P-H STRS	C	HILL SLOPE	J-P WOOD	6950	SE	35	.	.	5
326	2	0	P-H STRS	C	HILL SLOPE	J-P WOOD	6950	SE	40	.	.	2
327	1	331	P-H STR/FT	D	HILL SLOPE	J-P WOOD	6960	W	1200	2	.	0
327	2	331	P-H STR/FT	D	HILL SLOPE	J-P WOOD	6960	W	400	1	.	0
328	1	191	P-H STRS	C	HILL SLOPE	P-J WOOOD	7100	SE	1350	.	.	4
328	2	191	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7100	SE	72	1	.	.
328	3	191	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7100	SE	525	3	.	.
328	4	191	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7100	SE	750	3	.	.
329	1	191	P-H STR/FT	C	HILL SLOPE	P-J PARK	7100	S	1200	1	.	3
330	1	0	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7060	SE	8000	3	.	10
330	2	0	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7060	SE	2000	2	.	5
330	3	0	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7060	SE	4800	3	.	21
331	1	0	P-H STRS	C	RIDGE	P-J PARK	7060	S	2660	.	.	46
331	2	0	P-H FEATS	C	RIDGE	P-J PARK	7060	360	384	1	.	.
331	3	0	P-H STRS	C	RIDGE	P-J PARK	7060	S	575	.	.	5
331	4	0	P-H FEATS	C	RIDGE	P-J PARK	7060	360	432	1	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVATION	EXPOSURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
331	5	0	P-H STRS	C	PLAIN/FLAT	P-J PARK	7060	360	9000	.	.	1
331	6	0	P-H FEATS	C	ARROYO/WASH	P-J PARK	7060	360	900	1	1	.
331	7	0	P-H STRS	C	PLAIN/FLAT	P-J PARK	7060	360	15	.	.	2
333	1	0	P-H STRS	A	MESA	P-J PARK	6940	SW	625	.	.	15
333	2	0	P-H STRS	A	MESA	P-J PARK	6940	W	1125	.	.	21
333	3	0	P-H STRS	A	MESA	P-J PARK	6940	SE	250	.	.	7
333	4	0	P-H STRS	A	MESA	P-J PARK	6940	SE	100	.	.	2
333	5	0	P-H STRS	A	MESA	P-J PARK	6940	SE	700	.	.	9
333	6	0	P-H STRS	A	MESA	P-J PARK	6940	SE	150	.	.	4
333	7	0	P-H FEATS	A	MESA	P-J PARK	6940	360	2250	3	.	.
333	8	0	P-H STRS	A	MESA	P-J PARK	6940	E	100	.	.	1
333	9	0	P-H STRS	A	MESA	P-J PARK	6940	E	250	.	.	2
333	10	0	P-H FEATS	A	MESA	P-J PARK	6940	360	240	3	.	.
333	11	0	P-H STRS	A	MESA	P-J PARK	6940	E	600	.	.	7
333	12	0	P-H STRS	A	MESA	P-J PARK	6940	E	2400	.	.	16
333	13	0	P-H STRS	A	MESA	P-J PARK	6940	N	150	.	.	5
333	14	0	P-H STR/FT	A	MESA	P-J PARK	6940	W	40	2	.	0
333	15	0	P-H STRS	A	MESA	P-J PARK	6940	W	50	.	.	2
333	16	0	P-H STR/FT	A	MESA	P-J PARK	6940	W	150	2	.	2
333	17	0	P-H STRS	A	MESA	P-J PARK	6940	W	50	.	.	2
333	18	0	P-H STRS	A	MESA	P-J PARK	6940	W	50	.	.	2
333	19	0	P-H STRS	A	MESA	P-J PARK	6940	W	150	.	.	6
333	20	0	P-H STRS	A	MESA	P-J PARK	6940	W	100	.	.	3
333	21	0	P-H STRS	A	MESA	P-J PARK	6940	W	200	.	.	8
333	22	0	P-H STRS	A	MESA	P-J PARK	6940	W	200	.	.	5
333	23	0	P-H STRS	A	MESA	P-J PARK	6940	W	25	.	.	1
333	24	0	P-H STRS	A	MESA	P-J PARK	6940	W	15	.	.	1
333	25	0	P-H FEATS	A	MESA	P-J PARK	6940	360	270	7	.	.
333	26	0	P-H FEATS	A	MESA	P-J PARK	6940	360	480	3	.	.
333	27	0	P-H FEATS	A	MESA	P-J PARK	6940	360	770	8	.	.
335	1	0	P-H STR/FT	C	BENCH	GRASS	6840	S	560000	0	.	0
429	1	0	P-H FEATS	D	HILL SLOPE	GRASS	6480	SE	6400	3	.	.
429	2	0	P-H STRS	D	HILL SLOPE	SCRUB	6480	SE	200	.	.	4
449	1	514	P-H FEATS	C	RIDGE	SCRUB	6835	SE	2500	2	.	.
450	1	514	P-H STR/FT	C	RIDGE	SCRUB	6840	NW	540	1	.	2
451	1	514	P-H FEATS	C	RIDGE	P-J PARK	6820	W	60	1	.	.
452	1	514	L-SCAT	C	RIDGE	P-J WOOOD	6820	360	289	.	.	.
452	2	514	P-H FEATS	C	RIDGE	P-J WOOOD	6820	N	924	4	.	.
452	3	514	P-H FEATS	C	RIDGE	P-J WOOOD	6820	N	800	3	.	.
452	4	514	P-H FEATS	C	RIDGE	P-J WOOOD	6820	SE	1485	3	.	.
452	5	514	P-H FEATS	C	RIDGE	P-J WOOOD	6820	E	1880	3	.	.
452	6	514	L-SCAT	C	RIDGE	P-J WOOOD	6815	E	614	.	.	.
452	7	514	L-SCAT	C	RIDGE	P-J WOOOD	6820	360	300	.	.	.
452	8	514	L-SCAT	C	RIDGE	P-J WOOOD	6830	360	50	.	.	.
453	1	514	P-H STR/FT	C	RIDGE	P-J WOOOD	6815	NE	440	2	.	3
454	1	517	P-H FEATS	C	CANYON FLOOR	MARSH	6815	W	4250	1	.	.
455	1	517	L/C SCAT	C	FLOOD/VALLEY	MARSH	6820	W	1000	.	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVA-TION	EXPO SURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
456	1	64	P-H STRS	D	PLAIN/FLAT	SCRUB	6770	NE	2000	.	.	2
457	1	64	P-H FEATS	D	PLAIN/FLAT	GRASS	6760	N	1800	1	.	.
458	1	393	P-H FEATS	C	RIDGE	J-P WOOD	6810	N	6250	5	.	.
459	1	393	P-H FEATS	C	RIDGE	P-J WOOOD	6820	W	36	1	.	.
460	1	393	C-SCAT	C	RIDGE	P-J WOOOD	6760	NE	400	.	.	.
461	1	437	L/C SCAT	C	RIDGE	P-J WOOOD	6720	N	1125	.	.	.
462	1	437	P-H STR/FT	C	RIDGE	P-J WOOOD	6720	NE	2400	1	.	15
464	1	244	L/C SCAT	C	HILL SLOPE	P-J WOOOD	6875	SE	900	.	.	.
465	1	263	HIST STRS	D	PLAIN/FLAT	SCRUB	6830	NE	2400	.	5	2
466	1	8	HIST STRS	D	HILL SLOPE	P-J PARK	6860	E	25	.	.	1
468	1	0	L/C SCAT	A	MESA	P-J WOOOD	7095	W	400	.	.	.
468	2	0	P-H STR/FT	A	MESA	P-J WOOOD	7095	W	1200	2	.	2
469	1	0	P-H STRS	C	RIDGE	P-J PARK	7040	N	1250	.	.	3
470	1	35	P-H FEATS	C	RIDGE	P-J WOOOD	6875	NW	200	1	.	.
471	1	35	P-H STR/FT	C	RIDGE	P-J WOOOD	6845	N	8000	1	.	2
472	1	0	P-H STRS	C	RIDGE	P-J PARK	6800	360	2070	.	.	42
472	2	0	P-H STRS	C	RIDGE	P-J PARK	6800	S	444	.	.	32
472	3	0	P-H STR/FT	C	RIDGE	P-J PARK	6800	360	624	1	.	35
472	4	0	P-H STR/FT	C	RIDGE	P-J PARK	6800	S	1386	2	.	15
472	5	0	P-H STR/FT	C	RIDGE	P-J PARK	6800	S	800	1	.	16
472	6	0	P-H STR/FT	C	RIDGE	P-J PARK	6800	360	540	1	.	4
472	7	0	P-H STR/FT	C	RIDGE	P-J PARK	6800	S	800	1	.	11
472	8	0	P-H STR/FT	C	RIDGE	P-J PARK	6800	S	2800	2	.	12
472	9	0	P-H STRS	C	RIDGE	SCRUB	6780	360	81	.	.	9
472	10	0	P-H STR/FT	C	RIDGE	SCRUB	6780	360	442	1	.	4
473	1	156	P-H STR/FT	C	RIDGE	SCRUB	6990	E	2400	1	.	15
474	1	157	L/C SCAT	C	TALUS BASE	SCRUB	6940	NE	1000	.	.	.
475	1	157	L/C SCAT	C	RIDGE	SCRUB	6920	S	800	.	.	.
476	1	162	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	6960	E	300	1	.	8
477	1	162	P-H FEATS	C	CLIFF/SCARP	P-J WOOOD	6990	S	450	2	.	.
478	1	162	P-H FEATS	C	HILL SLOPE	P-J WOOOD	6940	E	4200	1	.	.
479	1	162	P-H STR/FT	C	RIDGE	SCRUB	6920	SE	400	1	.	1
480	1	162	P-H STR/FT	C	RIDGE	P-J WOOOD	6910	SE	180	1	.	2
481	1	0	P-H STRS	D	RIDGE	GRASS	6900	SE	4000	.	.	51
482	1	35	C-SCAT	C	ARROYO/WASH	P-J WOOOD	6835	SW	750	.	2	.
483	1	39	P-H STRS	C	RIDGE	P-J PARK	7040	SE	1250	.	.	3
484	1	38	HIST STRS	C	RIDGE	P-J PARK	6800	NE	1800	.	6	2
485	1	0	L-SCAT	D	ARROYO/WASH	P-J WOOOD	6830	SE	.	.	.	.
485	2	0	HIST STRS	D	ARROYO/WASH	P-J WOOOD	6830	SE	7700	.	7	3
486	1	7	P-H FEATS	A	MESA	P-J WOOOD	7400	N	15	4	.	.
486	2	7	P-H FEATS	A	MESA	P-J WOOOD	7400	360	8	1	.	.
486	3	7	L/C SCAT	A	MESA	P-J WOOOD	7400	360	30	.	.	.
486	4	7	L-SCAT	A	MESA	P-J WOOOD	7400	360	10	.	.	.
486	5	7	P-H FEATS	A	MESA	P-J WOOOD	7400	360	1	1	.	.
486	6	7	P-H FEATS	A	MESA	P-J WOOOD	7400	360	1	1	.	.
486	7	7	P-H FEATS	A	MESA	P-J WOOOD	7400	360	10	2	.	.
486	8	7	L/C SCAT	A	MESA	P-J WOOOD	7400	360	35	.	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVA-TION	EXPO SURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
486	9	7	P-H FEATS	A	MESA	P-J WOOOD	7400	360	1	1	.	.
486	10	7	P-H FEATS	A	MESA	P-J WOOOD	7400	360	6	1	.	.
487	1	7	L/C SCAT	A	MESA	P-J WOOOD	7400	S	5050	.	.	.
488	1	86	L-SCAT	C	RIDGE	P-J PARK	6800	E	1600	.	.	.
488	2	86	P-H FEATS	C	RIDGE	P-J PARK	6800	E	100	1	.	.
489	1	86	L/C SCAT	C	RIDGE	P-J WOOOD	6810	NW	1750	.	.	.
490	1	41	P-H STRS	C	HILL SLOPE	P-J PARK	6890	SE	4200	.	.	2
491	1	44	P-H FEATS	C	RIDGE	P-J PARK	6910	E	1050	1	.	.
492	1	44	P-H FEATS	C	HILL SLOPE	P-J PARK	6970	SE	450	1	.	.
493	1	247	L/C SCAT	D	RIDGE	P-J PARK	6760	SE	9975	.	.	.
494	1	234	L-SCAT	C	RIDGE	P-J WOOOD	6850	NW	900	.	.	.
495	1	234	P-H FEATS	C	HILL SLOPE	P-J WOOOD	6880	NW	9	3	.	.
495	2	234	L-SCAT	C	HILL SLOPE	P-J WOOOD	6760	NW	30	.	.	.
495	3	234	L-SCAT	C	HILL SLOPE	P-J WOOOD	6760	NW	25	.	.	.
495	4	234	L-SCAT	C	HILL SLOPE	P-J WOOOD	6760	NW	20	.	.	.
496	1	243	L-SCAT	D	RIDGE	P-J PARK	6815	W	600	.	.	.
497	1	556	HIST STRS	D	RIDGE	P-J PARK	6730	NW	7700	.	10	1
498	1	533	HIST STRS	C	RIDGE	P-J PARK	6920	SE	400	.	.	1
498	2	533	L/C SCAT	C	RIDGE	P-J PARK	6920	SE	225	.	.	.
499	1	533	L/C SCAT	C	ARROYO/WASH	P-J WOOOD	6900	SW	1000	.	.	.
500	1	533	HIST STRS	C	PLAIN/FLAT	P-J PARK	6910	S	3150	.	4	4
501	1	296	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	E	720	2	0	.
501	2	296	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	SE	250	1	0	.
501	3	296	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	SW	288	1	0	.
501	4	296	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	S	768	1	0	.
501	5	296	P-H FEATS	C	RIDGE	J-P WOOD	6960	SW	350	3	0	.
501	6	296	P-H FEATS	C	RIDGE	J-P WOOD	6960	NE	600	2	0	.
501	7	296	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	N	195	3	0	.
501	8	296	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	W	800	2	0	.
502	1	296	L/C SCAT	C	HILL SLOPE	J-P WOOD	6940	UNK	0	.	0	.
502	2	296	P-H FEATS	C	HILL SLOPE	J-P WOOD	6940	UNK	0	1	0	.
503	1	334	L-SCAT	A	MESA	J-P WOOD	7100	360	2500	.	0	.
503	2	334	L-SCAT	B	TALUS	J-P WOOD	7070	SW	200	.	0	.
504	1	334	P-H STR/FT	D	HILL SLOPE	J-P WOOD	7090	E	700	1	0	1
504	2	334	P-H FEATS	D	HILL SLOPE	J-P WOOD	7090	S	1200	1	0	.
505	1	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7036	UNK	1000	2	0	2
505	2	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7037	UNK	800	1	0	4
505	3	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7038	UNK	1000	1	0	1
505	4	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7037	UNK	800	1	0	1
505	5	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7040	360	1200	4	0	2
505	6	199	P-H FEATS	C	HILL SLOPE	J-P WOOD	7045	SE	400	1	0	.
505	7	199	P-H FEATS	C	HILL SLOPE	J-P WOOD	7048	SE	300	1	0	.
505	8	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7050	SE	800	3	0	3
505	9	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7052	SE	750	4	0	2
505	10	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7052	SE	100	1	0	1
505	11	199	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7060	SE	160	1	0	2
505	12	199	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7062	SE	500	1	0	1

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVA-TION	EXPO SURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
505	13	199	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7055	SE	800	1	0	2
505	14	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7052	SW	900	3	0	1
505	15	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7045	SE	1200	2	0	2
505	16	199	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7045	SE	3000	2	0	12
505	17	199	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7050	SE	2500	5	0	5
505	18	199	P-H STR/FT	C	HILL TOP	P-J WOOOD	7055	SE	1200	2	0	6
505	19	199	P-H STR/FT	C	HILL SLOPE	P-J WOOOD	7055	NW	1000	1	0	2
505	20	199	P-H STR/FT	C	HILL TOP	P-J WOOOD	7058	SE	450	2	0	3
505	21	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7045	SE	3500	10	0	2
505	22	199	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7045	SE	5500	11	1	6
506	1	275	P-H STR/FT	C	MESA	J-P WOOD	7225	SE	450	16	0	17
506	2	275	P-H STRS	C	RIDGE	J-P WOOD	7200	SE	50	.	0	1
507	1	275	P-H FEATS	C	SADDLE	J-P WOOD	7180	SW	800	2	0	.
508	1	275	P-H FEATS	C	ARROYO/WASH	J-P WOOD	7180	S	600	3	0	.
508	2	275	P-H FEATS	C	HILL SLOPE	J-P WOOD	7180	360	225	1	0	.
509	1	276	P-H STR/FT	C	HILL TOP	J-P WOOD	7160	360	800	5	0	4
509	2	276	P-H STR/FT	C	HILL TOP	J-P WOOD	7160	360	200	1	0	2
510	1	276	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7140	S	10000	16	0	4
511	1	276	P-H STR/FT	C	HILL TOP	J-P WOOD	7110	360	1000	6	0	7
512	1	178	HIST STRS	C	FLOOD/VALLEY	SCRUB	7000	S	1800	1	3	2
512	2	178	P-H FEATS	C	HILL SLOPE	J-P WOOD	7010	SE	50	4	1	.
512	3	178	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7015	SE	4500	7	0	7
512	4	178	P-H FEATS	C	HILL SLOPE	J-P WOOD	7010	SE	10	2	0	.
512	5	178	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7010	SE	760	2	0	8
512	6	178	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7040	SE	15000	10	0	16
512	7	178	P-H STR/FT	C	HILL TOP	J-P WOOD	7045	360	450	1	0	2
512	8	178	P-H FEATS	C	HILL SLOPE	J-P WOOD	7045	SE	150	7	0	.
512	9	178	P-H STR/FT	C	HILL SLOPE	MARSH	7025	SE	300	1	0	2
512	10	178	P-H STR/FT	C	HILL SLOPE	MARSH	7025	SE	1200	7	0	17
513	1	0	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6910	360	4800	6	0	32
513	2	0	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6910	360	1000	1	0	5
514	1	204	P-H FEATS	C	HILL SLOPE	J-P WOOD	6910	S	600	3	0	.
515	1	0	P-H STR/FT	C	PLAIN/FLAT	J-P WOOD	6910	S	900	2	0	1
515	2	0	P-H STR/FT	C	PLAIN/FLAT	J-P WOOD	6910	S	300	3	0	1
516	1	0	P-H STRS	C	PLAIN/FLAT	J-P WOOD	6890	360	500	.	0	2
516	2	0	P-H STRS	C	PLAIN/FLAT	J-P WOOD	6890	UNK	150	.	0	2
517	1	0	P-H STRS	C	PLAIN/FLAT	J-P WOOD	6870	S	400	.	0	1
518	1	0	P-H STR/FT	D	FLOOD/VALLEY	GRASS	6860	360	2100	1	0	4
519	1	224	P-H STR/FT	C	HILL TOP	J-P WOOD	6885	W	200	2	0	2
519	2	224	P-H STR/FT	C	HILL TOP	J-P WOOD	6885	W	600	2	0	2
520	1	222	P-H STR/FT	C	HILL TOP	J-P WOOD	6870	360	750	3	0	1
521	1	222	P-H STR/FT	C	HILL TOP	J-P WOOD	6880	SW	250	2	0	1
522	1	222	P-H STR/FT	C	BENCH	J-P WOOD	6880	S	10800	7	0	10
523	1	222	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6860	SE	7500	1	0	2
524	1	0	P-H STR/FT	C	RIDGE	J-P WOOD	6860	360	30000	4	0	17
525	1	222	P-H FEATS	C	HILL TOP	J-P WOOD	6905	360	2000	5	0	.
525	2	222	P-H FEATS	C	HILL TOP	J-P WOOD	6905	360	400	1	0	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVA-TION	EXPO SURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
526	1	219	P-H FEATS	C	HILL SLOPE	J-P WOOD	6920	360	7000	3	1	.
527	1	219	P-H FEATS	C	HILL SLOPE	J-P WOOD	6940	360	3900	2	1	.
528	1	219	P-H FEATS	C	HILL SLOPE	J-P WOOD	6950	360	2000	1	0	.
529	1	219	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6930	360	2100	2	0	1
530	1	219	P-H FEATS	C	HILL SLOPE	SCRUB	6920	N	48	2	0	.
531	1	210	P-H FEATS	C	HILL SLOPE	J-P WOOD	6905	S	600	1	0	.
532	1	210	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6925	NW	4000	11	0	8
532	2	210	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6925	NW	3500	5	0	6
533	1	210	P-H STR/FT	C	LOW RISE	J-P WOOD	6910	S	2500	4	0	15
534	1	0	P-H STR/FT	C	LOW RISE	GRASS	7110	360	4800	3	0	27
534	2	0	P-H STR/FT	C	LOW RISE	J-P WOOD	7110	360	800	1	0	6
535	1	0	P-H FEATS	C	LOW RISE	GRASS	6905	360	225	1	0	.
536	1	265	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6840	S	4000	7	0	6
537	1	265	P-H STRS	C	RIDGE	J-P WOOD	6860	S	200	.	0	1
538	1	304	HIST FEA/SCAT	D	HILL SLOPE	P-J PARK	6790	N	4000	.	6	.
538	2	304	P-H FEATS	D	HILL SLOPE	P-J PARK	6790	N	800	1	0	.
539	1	265	P-H FEATS	C	HILL SLOPE	J-P WOOD	6846	S	15	2	0	.
539	2	265	P-H FEATS	C	HILL SLOPE	J-P WOOD	6850	S	800	3	0	.
539	3	265	HIST FEA/SCAT	C	HILL SLOPE	J-P WOOD	6846	UNK	25	.	1	.
540	1	265	P-H FEATS	C	HILL SLOPE	J-P WOOD	6840	SE	150	1	0	.
541	1	265	P-H FEATS	C	HILL SLOPE	J-P WOOD	6840	N	250	1	0	.
542	1	266	P-H STRS	C	HILL SLOPE	J-P WOOD	6800	NW	100	.	0	1
543	1	551	P-H STR/FT	D	LOW RISE	P-J PARK	6950	360	4800	5	0	36
543	2	551	P-H STR/FT	D	LOW RISE	GRASS	6950	360	2400	6	0	20
543	3	551	P-H STR/FT	D	HILL SLOPE	GRASS	6945	S	8000	8	0	8
543	4	551	P-H FEATS	D	HILL SLOPE	P-J PARK	6945	S	800	2	0	.
543	5	551	P-H FEATS	D	HILL SLOPE	P-J PARK	6945	S	200	2	0	.
543	6	551	P-H FEATS	D	HILL SLOPE	P-J PARK	6945	S	120	2	0	.
543	7	551	P-H FEATS	D	HILL SLOPE	GRASS	6945	S	140	2	0	.
543	8	551	P-H FEATS	D	HILL SLOPE	P-J PARK	6945	S	1000	2	0	.
543	9	551	P-H STR/FT	D	HILL SLOPE	P-J PARK	6945	S	850	1	0	1
543	10	551	P-H STR/FT	D	HILL SLOPE	P-J PARK	6945	S	1000	1	0	1
543	11	551	P-H STR/FT	D	HILL SLOPE	P-J PARK	6940	S	100	1	0	1
544	1	327	P-H STR/FT	C	HILL SLOPE	J-P WOOD	7060	NE	30000	1	0	8
545	1	327	P-H FEATS	C	HILL SLOPE	J-P WOOD	7010	NE	5000	2	0	.
546	1	169	P-H FEATS	C	HILL TOP	P-J WOOOD	7100	360	1200	6	0	.
546	2	169	P-H STR/FT	C	TALUS BASE	P-J WOOOD	7040	360	27000	16	0	1
547	1	169	P-H FEATS	C	TALUS BASE	P-J WOOOD	7030	S	1350	1	0	.
547	2	169	P-H FEATS	C	HILL SLOPE	P-J WOOOD	7020	S	1700	1	0	.
548	1	169	P-H STR/FT	C	HILL TOP	P-J WOOOD	7110	360	4500	1	0	1
548	2	169	P-H STR/FT	C	SADDLE	P-J WOOOD	7080	S	100	2	0	1
549	1	551	P-H STR/FT	D	LOW RISE	J-P WOOD	6880	S	750	2	0	4
550	1	196	P-H FEATS	D	HILL SLOPE	J-P WOOD	6895	E	1000	2	0	.
551	1	196	P-H FEATS	D	HILL SLOPE	J-P WOOD	6882	S	160	2	0	.
552	1	257	P-H FEATS	C	HILL TOP	J-P WOOD	6820	360	4200	3	0	.
553	1	257	P-H FEATS	C	HILL TOP	J-P WOOD	6828	360	3000	1	0	.
554	1	257	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6825	360	300	3	0	2

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVA-TION	EXPO SURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
554	2	257	P-H FEATS	C	HILL TOP	J-P WOOD	6825	360	100	2	0	.
554	3	257	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6825	360	200	3	0	2
554	4	257	P-H FEATS	C	HILL TOP	J-P WOOD	6825	360	400	1	0	.
555	1	355	P-H FEATS	C	HILL TOP	J-P WOOD	6880	360	80000	6	0	.
556	2	0	P-H FEATS	C	HILL SLOPE	J-P WOOD	6760	360	200	2	0	.
556	10	0	L-SCAT	C	HILL SLOPE	J-P WOOD	6760	360	19800	.	3	2
557	1	364	P-H FEATS	C	HILL SLOPE	J-P WOOD	6730	360	0	2	0	.
557	2	364	P-H FEATS	C	HILL SLOPE	J-P WOOD	6730	360	0	2	0	.
557	3	364	P-H FEATS	C	HILL SLOPE	J-P WOOD	6730	360	0	1	0	.
558	1	364	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6720	360	100	1	0	1
559	1	144	P-H STR/FT	C	CLIFF BASE	J-P WOOD	6642	SW	750	2	0	4
559	2	144	P-H STR/FT	C	CLIFF BASE	J-P WOOD	6643	SW	200	1	0	2
559	3	144	P-H STR/FT	C	CLIFF/SCARP	J-P WOOD	6650	SW	350	1	0	1
559	4	144	P-H STR/FT	C	CLIFF/SCARP	J-P WOOD	6650	SW	450	1	0	2
560	1	552	P-H STR/FT	C	HILL SLOPE	P-J PARK	6630	E	6800	7	0	11
561	1	552	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6620	E	6000	5	0	6
562	1	374	P-H FEATS	C	HILL TOP	J-P WOOD	6745	S	450	1	0	.
563	1	374	P-H FEATS	C	SADDLE	J-P WOOD	6720	E	12600	2	0	.
564	1	377	P-H STR/FT	C	HILL TOP	J-P WOOD	6740	360	1575	4	0	1
565	1	377	P-H FEATS	C	HILL SLOPE	J-P WOOD	6770	E	1920	3	0	.
565	2	377	HIST FEA/SCAT	C	HILL SLOPE	J-P WOOD	6770	E	640	.	1	.
565	3	377	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6770	E	6050	3	0	11
565	4	377	P-H FEATS	C	HILL SLOPE	J-P WOOD	6770	E	1750	1	0	.
565	5	377	P-H FEATS	C	HILL SLOPE	J-P WOOD	6775	E	2000	1	0	.
566	1	378	P-H FEATS	C	RIDGE	J-P WOOD	6780	E	3000	1	0	.
567	1	378	P-H STR/FT	C	RIDGE	J-P WOOD	6800	E	29400	4	0	12
568	1	378	P-H FEATS	C	RIDGE	J-P WOOD	6800	W	3125	1	0	.
569	1	0	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6750	N	5800	2	3	2
569	2	0	P-H FEATS	C	HILL SLOPE	J-P WOOD	6750	UNK	200	1	0	.
570	1	367	P-H FEATS	D	LOW RISE	GRASS	6690	360	600	1	0	.
571	1	0	HIST STRS	C	HILL SLOPE	GRASS	6695	360	14000	.	2	2
572	1	550	P-H FEATS	C	HILL TOP	OTHER	6820	360	1200	7	0	.
573	1	550	P-H FEATS	C	HILL SLOPE	J-P WOOD	6810	360	1200	2	0	.
574	1	504	P-H FEATS	C	HILL SLOPE	J-P WOOD	6780	N	1200	1	0	.
575	1	504	P-H FEATS	C	HILL SLOPE	GRASS	6780	N	1000	3	0	.
576	1	0	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6860	S	6300	3	0	16
576	2	0	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6860	S	600	1	0	4
577	1	61	P-H FEATS	C	HILL SLOPE	J-P WOOD	6890	UNK	0	2	0	.
578	1	61	P-H FEATS	C	CLIFF BASE	GRASS	6930	SE	1300	1	0	.
578	2	61	P-H FEATS	C	CLIFF BASE	GRASS	6930	NE	700	6	0	.
578	3	61	P-H FEATS	C	CLIFF BASE	J-P WOOD	6950	360	150	4	0	.
579	1	61	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6855	NE	4800	3	0	11
579	2	61	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6850	NE	200	2	0	4
579	3	61	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6850	NE	200	2	0	1
580	1	61	P-H FEATS	C	HILL TOP	J-P WOOD	6920	360	9000	3	0	.
581	1	88	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6820	SE	400	1	2	2
581	2	88	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6810	SE	350	1	0	2

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	TOPOGRAPHIC ZONE	TERRAIN	VEGETATION	ELEVATION	EXPOSURE	SITE/ PROV AREA	PRE-HIST FEATS	HIST FEATS	STRUCTURAL FEATURES
581	3	88	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6800	SE	350	1	0	1
582	1	89	P-H FEATS	C	HILL SLOPE	J-P WOOD	6812	NE	384	2	0	.
582	2	89	P-H FEATS	C	HILL SLOPE	J-P WOOD	6815	NE	96	1	0	.
583	1	88	P-H FEATS	C	RIDGE	J-P WOOD	6850	360	700	1	0	.
584	1	89	HIST STRS	C	HILL SLOPE	J-P WOOD	6830	N	11250	.	4	2
585	1	78	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	SE	11250	9	0	.
585	2	78	P-H FEATS	C	HILL SLOPE	J-P WOOD	6960	SE	2500	1	0	.
586	1	78	P-H STR/FT	C	HILL SLOPE	GRASS	6880	E	1000	3	0	21
586	2	78	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6980	E	400	5	0	2
586	3	78	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6980	E	400	4	0	2
586	4	78	P-H FEATS	C	HILL TOP	J-P WOOD	6990	E	6000	3	0	.
587	1	78	P-H FEATS	C	HILL SLOPE	J-P WOOD	6880	360	1800	2	0	.
588	1	78	P-H FEATS	C	HILL SLOPE	J-P WOOD	6890	SE	600	2	0	.
589	1	78	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6880	NE	14850	4	0	10
590	1	191	P-H STR/FT	C	LOW RISE	J-P WOOD	6700	360	1200	5	0	4
591	1	191	P-H FEATS	C	HILL TOP	P-J PARK	6680	360	2700	1	0	.
592	1	191	P-H STRS	C	HILL SLOPE	P-J PARK	6660	SW	400	.	0	1
593	1	0	P-H STR/FT	C	HILL SLOPE	J-P WOOD	6780	SE	22400	5	0	27
594	1	108	P-H FEATS	C	MESA	SCRUB	6830	SE	2500	1	0	.
595	1	108	P-H FEATS	C	HILL SLOPE	SCRUB	6835	E	1000	1	0	.
596	1	147	P-H FEATS	D	HILL SLOPE	SCRUB	6765	E	3750	1	0	.
597	1	0	P-H FEATS	C	CLIFF BASE	J-P WOOD	6845	SE	100	6	0	.
598	1	0	P-H STR/FT	C	HILL SLOPE	GRASS	6750	SE	15000	1	0	12
599	1	0	P-H STR/FT	B	TALUS	GRASS	6770	SE	40000	3	0	37
600	1	557	P-H STR/FT	C	HILL SLOPE	GRASS	6750	S	15000	7	0	8
601	1	557	P-H FEATS	C	CLIFF/SCARP	J-P WOOD	6780	SE	1000	1	0	.
602	1	0	HIST STRS	C	RIDGE	GRASS	6760	360	1600	.	4	5
603	1	377	P-H FEATS	C	HILL SLOPE	J-P WOOD	6730	E	5000	4	0	.
604	1	0	P-H STR/FT	C	LOW RISE	GRASS	6550	360	5000	3	0	4
605	1	0	C-SCAT	D	FLOOD/VALLEY	GRASS	6750	360	40000	.	1	.
606	1	0	P-H FEATS	C	HILL SLOPE	J-P WOOD	6800	360	1000	2	0	.
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										854	94	1420

Site/Architecture: Prehistoric Features

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
185	1	0	P-H STR/FT	.	.	1	6	.	.	.	.	7	29600	999	6
226	1	153	P-H FEATS	1	1	.	.	.	.	.	.	2	560	.	.
227	1	150	P-H STR/FT	1	.	.	.	.	.	.	.	1	1350	.	.
228	1	150	P-H STR/FT	.	1	1	1	.	.	.	.	3	1000	176	16
230	1	163	P-H FEATS	1	.	.	.	.	.	.	.	1	1250	.	.
231	1	163	P-H FEATS	.	.	.	.	4	.	.	.	4	900	.	.
233	1	163	P-H STR/FT	.	.	1	.	.	.	.	.	1	1000	64	.
234	2	163	P-H FEATS	.	1	.	.	.	.	.	.	1	100	.	.
234	3	163	P-H FEATS	.	1	.	.	.	.	.	.	1	4500	.	.
235	1	163	P-H STR/FT	.	.	1	.	.	.	.	.	1	1500	100	.
236	1	133	P-H FEATS	2	1	.	.	.	.	.	.	3	25	.	.
237	1	133	P-H FEATS	4	1	.	.	.	.	.	.	5	3400	.	.
238	1	133	P-H FEATS	3	.	.	.	.	.	.	.	3	1012	.	.
243	1	133	P-H FEATS	3	.	.	.	.	.	.	.	3	8055	.	.
245	1	230	P-H FEATS	.	3	.	.	.	.	.	.	3	7280	.	.
246	1	230	P-H FEATS	.	6	.	.	.	.	.	.	6	11700	.	.
246	2	230	P-H FEATS	.	1	.	.	.	.	.	.	1	45	.	.
247	1	546	P-H STR/FT	1	.	.	.	.	.	.	.	1	625	.	.
247	2	546	P-H FEATS	.	.	.	.	.	.	2	.	2	225	.	.
248	1	546	P-H STR/FT	.	.	1	.	.	.	.	.	1	3600	400	.
251	1	545	P-H STR/FT	1	.	.	.	.	.	1	.	2	1000	.	.
252	1	406	P-H FEATS	.	3	.	.	.	.	.	.	3	3900	.	.
253	1	406	P-H STR/FT	.	1	1	.	.	.	1	.	3	1000	40	.
254	1	414	P-H FEATS	.	.	.	.	.	.	1	.	1	805	.	.
257	1	0	P-H FEATS	.	.	.	.	.	2	.	.	2	150	.	.
263	1	0	P-H STR/FT	.	.	1	.	.	.	.	.	1	7000	999	.
263	2	0	P-H STR/FT	.	.	1	.	.	.	.	.	1	2500	375	.
263	3	0	P-H STR/FT	.	.	1	.	.	.	.	.	1	2500	875	.
264	1	520	P-H FEATS	.	1	.	.	.	.	.	.	1	900	.	.
264	2	520	P-H FEATS	.	1	.	.	.	.	.	.	1	100	.	.
265	1	520	P-H FEATS	.	1	.	.	.	.	.	.	1	3500	.	.
266	1	515	P-H FEATS	.	.	1	.	.	.	.	.	1	100	100	.
266	2	515	P-H STR/FT	.	.	1	2	.	.	2	.	5	1500	100	6
267	1	515	P-H FEATS	.	2	.	.	.	.	.	.	2	3200	.	.
268	1	520	P-H FEATS	.	1	.	.	.	.	.	.	1	21	.	.
268	2	520	P-H FEATS	.	1	.	.	.	.	.	.	1	63	.	.
268	3	520	P-H FEATS	.	1	.	.	.	.	.	.	1	169	.	.
268	4	520	P-H FEATS	.	1	.	.	.	.	.	.	1	9	.	.
268	5	520	P-H FEATS	.	1	.	.	.	.	.	.	1	9	.	.
268	6	520	P-H FEATS	.	1	.	.	.	.	.	.	1	88	.	.
268	7	520	P-H FEATS	.	1	.	.	.	.	.	.	1	12	.	.
268	8	520	P-H FEATS	.	1	.	.	.	.	.	.	1	56	.	.
268	9	520	P-H FEATS	.	1	.	.	.	.	.	.	1	36	.	.
268	10	520	P-H FEATS	.	1	.	.	.	.	.	.	1	4	.	.
268	11	520	P-H FEATS	.	1	.	.	.	.	.	.	1	4	.	.
268	12	520	P-H FEATS	.	1	.	.	.	.	.	.	1	16	.	.
268	13	520	P-H FEATS	.	1	.	.	.	.	.	.	1	36	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
268	14	520	P-H FEATS	.	1	.	.	.	.	.	.	1	16	.	.
268	15	520	P-H FEATS	.	1	.	.	.	.	.	.	1	8	.	.
268	16	520	P-H FEATS	.	1	.	.	.	.	.	.	1	8	.	.
269	1	520	P-H FEATS	.	1	.	.	.	.	.	.	1	100	.	.
270	2	438	P-H STR/FT	.	.	1	.	.	.	.	1	2	2250	.	.
270	5	438	P-H STR/FT	1	.	.	.	.	.	.	.	1	1500	.	.
270	6	438	P-H STR/FT	0	.	.	.	.	.	.	0	0	10000	.	.
270	7	438	P-H STR/FT	.	.	1	.	.	.	.	.	1	.	.	.
270	8	438	P-H STR/FT	0	.	.	.	.	.	.	0	0	.	.	.
270	10	438	P-H STR/FT	.	0	.	.	.	.	.	.	0	900	.	.
270	11	438	P-H STR/FT	.	.	0	.	.	.	.	.	0	1600	.	.
270	12	438	P-H STR/FT	.	0	.	0	.	.	7	.	7	1400	.	.
270	13	438	P-H STR/FT	.	.	.	0	.	.	.	.	0	800	.	.
270	14	438	P-H STR/FT	.	.	.	0	.	.	0	.	0	600	.	.
270	15	438	P-H STR/FT	.	.	0	0	.	.	0	.	0	5000	.	.
270	16	438	P-H STR/FT	.	.	.	.	.	.	0	.	0	400	.	.
270	17	438	P-H STR/FT	.	.	2	2	.	.	.	.	4	4000	.	.
270	18	438	P-H STR/FT	3	.	2	1	.	.	2	.	8	8000	.	.
270	19	438	P-H FEATS	.	.	.	1	.	.	.	.	1	140	.	.
270	20	438	P-H STR/FT	1	.	1	.	.	.	.	.	2	10000	.	.
272	1	187	P-H FEATS	1	.	.	.	.	.	.	.	1	2500	.	.
273	1	187	P-H STR/FT	1	.	.	.	.	.	1	.	2	35	.	.
273	4	187	P-H FEATS	.	.	2	.	.	.	.	.	2	500	90	.
274	1	187	P-H FEATS	.	1	1	11	.	.	.	1	14	28000	500	.
275	3	187	P-H STR/FT	.	.	1	.	.	.	.	.	1	100	25	.
276	1	187	P-H FEATS	.	6	.	5	.	.	.	.	11	7700	.	0
278	1	187	P-H FEATS	.	1	.	.	.	.	.	.	1	450	.	.
278	2	187	P-H FEATS	.	1	.	.	.	.	.	.	1	250	.	.
278	3	187	P-H FEATS	.	1	.	.	.	.	1	.	2	110	.	.
278	5	187	P-H FEATS	.	1	.	.	.	.	.	.	1	96	.	.
278	6	187	P-H FEATS	.	1	.	.	.	.	.	.	1	90	.	.
278	7	187	P-H FEATS	.	1	.	.	.	.	.	.	1	63	.	.
278	8	187	P-H FEATS	.	1	.	.	.	.	.	.	1	1	.	.
278	9	187	P-H FEATS	.	1	.	.	.	.	.	.	1	240	.	.
278	10	187	P-H FEATS	.	1	.	.	.	.	.	.	1	6	.	.
278	11	187	P-H FEATS	.	1	.	.	.	.	.	.	1	72	.	.
278	12	187	P-H FEATS	.	1	.	.	.	.	.	.	1	15	.	.
278	13	187	P-H FEATS	.	1	.	.	.	.	.	.	1	8	.	.
278	14	187	P-H FEATS	.	1	.	.	.	.	.	.	1	4	.	.
278	15	187	P-H FEATS	.	1	.	.	.	.	.	.	1	4	.	.
278	16	187	P-H FEATS	.	1	.	.	.	.	.	.	1	4	.	.
278	17	187	P-H FEATS	.	0	.	.	.	.	.	.	0	160	.	.
279	1	187	P-H STR/FT	.	.	.	.	.	.	.	1	1	1750	.	.
280	1	191	P-H STR/FT	.	3	.	.	1	.	.	.	4	1200	.	.
280	5	191	P-H FEATS	.	11	.	.	.	.	.	.	11	1800	.	.
281	1	191	P-H FEATS	.	1	.	.	.	.	.	.	1	506	.	.
290	1	0	P-H STR/FT	1	.	.	.	.	.	.	.	1	3600	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
291	1	40	P-H STR/FT	.	.	1	.	.	.	.	.	1	648	260	.
291	2	40	P-H FEATS	.	2	1	.	.	.	1	.	4	1020	750	.
291	3	40	P-H FEATS	.	.	.	.	.	.	1	.	1	640	.	.
293	1	40	P-H FEATS	.	.	.	.	.	.	1	.	1	903	.	.
294	1	40	P-H FEATS	.	9	.	.	.	.	1	.	10	4500	.	.
295	1	40	P-H FEATS	1	.	.	.	.	.	1	.	2	300	.	.
311	1	533	P-H FEATS	.	4	.	.	.	.	.	.	4	1600	.	.
311	2	533	P-H FEATS	.	2	.	.	.	.	.	.	2	150	.	.
312	1	533	P-H FEATS	.	3	.	.	.	.	.	.	3	600	.	.
314	1	442	P-H STR/FT	.	.	1	.	.	.	.	.	1	1350	600	.
316	1	442	P-H FEATS	.	.	.	1	.	.	.	.	1	400	.	.
324	1	331	P-H FEATS	.	.	.	.	.	.	1	.	1	1400	.	.
327	1	331	P-H STR/FT	.	.	1	.	.	.	1	.	2	1200	100	.
327	2	331	P-H STR/FT	.	.	.	.	.	.	1	.	1	400	.	.
328	2	191	P-H FEATS	.	1	.	.	.	.	.	.	1	72	.	.
328	3	191	P-H FEATS	.	3	.	.	.	.	.	.	3	525	.	.
328	4	191	P-H FEATS	.	3	.	.	.	.	.	.	3	750	.	.
329	1	191	P-H STR/FT	1	.	.	.	.	.	.	.	1	1200	.	.
330	1	0	P-H STR/FT	.	.	2	.	.	.	1	.	3	8000	999	.
330	2	0	P-H STR/FT	1	.	1	.	.	.	.	.	2	2000	400	.
330	3	0	P-H STR/FT	.	.	1	.	.	.	2	.	3	4800	600	.
331	2	0	P-H FEATS	.	.	1	.	.	.	.	.	1	384	384	.
331	4	0	P-H FEATS	.	.	1	.	.	.	.	.	1	432	432	.
331	6	0	P-H FEATS	.	.	.	.	1	.	.	.	1	900	.	.
333	7	0	P-H FEATS	.	.	.	3	.	.	.	.	3	2250	.	.
333	10	0	P-H FEATS	1	2	.	.	.	.	.	.	3	240	.	.
333	14	0	P-H STR/FT	.	.	.	.	.	.	2	.	2	40	.	.
333	16	0	P-H STR/FT	.	.	.	.	.	2	.	.	2	150	.	.
333	25	0	P-H FEATS	.	7	.	.	.	.	.	.	7	270	.	.
333	26	0	P-H FEATS	.	3	.	.	.	.	.	.	3	480	.	.
333	27	0	P-H FEATS	.	8	.	.	.	.	.	.	8	770	.	.
335	1	0	P-H STR/FT	0	0	0	0	.	.	0	.	0	560000	.	.
429	1	0	P-H FEATS	.	1	.	.	.	1	1	.	3	6400	.	.
449	1	514	P-H FEATS	.	2	.	.	.	.	.	.	2	2500	.	.
450	1	514	P-H STR/FT	.	1	.	.	.	.	.	.	1	540	.	.
451	1	514	P-H FEATS	.	1	.	.	.	.	.	.	1	60	.	.
452	2	514	P-H FEATS	.	4	.	.	.	.	.	.	4	924	.	.
452	3	514	P-H FEATS	.	3	.	.	.	.	.	.	3	800	.	.
452	4	514	P-H FEATS	.	3	.	.	.	.	.	.	3	1485	.	.
452	5	514	P-H FEATS	.	3	.	.	.	.	.	.	3	1880	.	.
453	1	514	P-H STR/FT	.	.	1	.	.	.	.	1	2	440	100	.
454	1	517	P-H FEATS	.	1	.	.	.	.	.	.	1	4250	.	.
457	1	64	P-H FEATS	.	.	.	.	.	.	1	.	1	1800	.	.
458	1	393	P-H FEATS	.	5	.	.	.	.	.	.	5	6250	.	.
459	1	393	P-H FEATS	1	.	.	.	.	.	.	.	1	36	.	.
462	1	437	P-H STR/FT	.	.	1	.	.	.	.	.	1	2400	100	.
468	2	0	P-H STR/FT	.	.	1	.	.	.	1	.	2	1200	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
470	1	35	P-H FEATS	1	.	.	.	.	.	.	.	1	200	.	.
471	1	35	P-H STR/FT	.	.	.	.	.	.	.	1	1	8000	.	.
472	3	0	P-H STR/FT	.	.	1	.	.	.	.	.	1	624	360	.
472	4	0	P-H STR/FT	.	.	1	.	.	.	1	.	2	1386	400	.
472	5	0	P-H STR/FT	.	.	1	.	.	.	.	.	1	800	64	.
472	6	0	P-H STR/FT	.	.	1	.	.	.	.	.	1	540	400	.
472	7	0	P-H STR/FT	.	.	1	.	.	.	.	.	1	800	225	.
472	8	0	P-H STR/FT	.	.	1	.	.	1	.	.	2	2800	400	.
472	10	0	P-H STR/FT	.	.	.	.	.	1	.	.	1	442	.	.
473	1	156	P-H STR/FT	.	.	1	.	.	.	.	.	1	2400	225	.
476	1	162	P-H STR/FT	.	.	1	.	.	.	.	.	1	300	.	.
477	1	162	P-H FEATS	.	.	.	.	.	2	.	.	2	450	.	.
478	1	162	P-H FEATS	.	.	.	.	.	.	1	.	1	4200	.	.
479	1	162	P-H STR/FT	.	.	.	.	.	.	1	.	1	400	.	.
480	1	162	P-H STR/FT	.	.	.	.	.	.	1	.	1	180	.	.
486	1	7	P-H FEATS	3	1	.	.	.	.	.	.	4	15	.	.
486	2	7	P-H FEATS	.	1	.	.	.	.	.	.	1	8	.	.
486	5	7	P-H FEATS	1	.	.	.	.	.	.	.	1	1	.	.
486	6	7	P-H FEATS	1	.	.	.	.	.	.	.	1	1	.	.
486	7	7	P-H FEATS	.	2	.	.	.	.	.	.	2	10	.	.
486	9	7	P-H FEATS	.	1	.	.	.	.	.	.	1	1	.	.
486	10	7	P-H FEATS	.	1	.	.	.	.	.	.	1	6	.	.
488	2	86	P-H FEATS	.	1	.	.	.	.	.	.	1	100	.	.
491	1	44	P-H FEATS	.	.	.	.	.	.	1	.	1	1050	.	.
492	1	44	P-H FEATS	.	1	.	.	.	.	.	.	1	450	.	.
495	1	234	P-H FEATS	.	3	.	.	.	.	.	.	3	9	.	.
501	1	296	P-H FEATS	.	1	.	.	.	.	.	1	2	720	.	.
501	2	296	P-H FEATS	.	.	.	.	.	.	.	1	1	250	.	.
501	3	296	P-H FEATS	.	.	.	.	.	.	.	1	1	288	.	.
501	4	296	P-H FEATS	0	0	1	.	.	.	.	0	1	768	150	.
501	5	296	P-H FEATS	.	2	.	.	.	.	.	1	3	350	.	.
501	6	296	P-H FEATS	.	1	.	.	.	.	.	1	2	600	.	.
501	7	296	P-H FEATS	1	1	.	.	.	.	.	1	3	195	.	.
501	8	296	P-H FEATS	.	1	.	.	.	.	.	1	2	800	.	.
502	2	296	P-H FEATS	0	1	.	.	.	.	.	0	1	0	.	.
504	1	334	P-H STR/FT	.	.	.	.	.	.	1	1	1	700	.	.
504	2	334	P-H FEATS	.	.	.	.	.	.	.	1	1	1200	.	.
505	1	199	P-H STR/FT	.	.	1	.	1	.	.	0	2	1000	150	.
505	2	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	800	100	.
505	3	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	1000	50	.
505	4	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	800	25	.
505	5	199	P-H STR/FT	1	.	1	.	1	.	.	1	4	1200	100	.
505	6	199	P-H FEATS	.	.	1	.	.	.	.	0	1	400	240	.
505	7	199	P-H FEATS	.	.	1	.	.	.	.	0	1	300	180	.
505	8	199	P-H STR/FT	.	.	1	.	1	.	.	1	3	800	300	.
505	9	199	P-H STR/FT	.	.	2	.	1	.	.	1	4	750	150	.
505	10	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	100	80	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
505	11	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	160	20	.
505	12	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	500	50	.
505	13	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	800	400	.
505	14	199	P-H STR/FT	.	2	1	.	.	.	.	0	3	900	150	.
505	15	199	P-H STR/FT	.	1	1	.	.	.	.	0	2	1200	250	.
505	16	199	P-H STR/FT	.	1	1	.	.	.	.	0	2	3000	450	.
505	17	199	P-H STR/FT	.	4	1	.	.	.	.	0	5	2500	650	.
505	18	199	P-H STR/FT	1	.	1	.	.	.	.	0	2	1200	900	.
505	19	199	P-H STR/FT	.	.	1	.	.	.	.	0	1	1000	200	.
505	20	199	P-H STR/FT	.	.	1	.	.	.	.	1	2	450	100	.
505	21	199	P-H STR/FT	4	4	2	.	.	.	.	0	10	3500	900	.
505	22	199	P-H STR/FT	5	4	2	.	.	.	.	0	11	5500	999	.
506	1	275	P-H STR/FT	.	8	2	1	5	0	5	0	16	450	225	5
507	1	275	P-H FEATS	.	1	1	.	.	.	.	0	2	800	10	.
508	1	275	P-H FEATS	.	2	.	.	.	.	.	1	3	600	50	.
508	2	275	P-H FEATS	.	.	.	.	.	.	.	1	1	225	50	.
509	1	276	P-H STR/FT	1	2	2	.	.	.	1	0	5	800	200	.
509	2	276	P-H STR/FT	.	.	1	.	.	.	1	0	1	200	50	.
510	1	276	P-H STR/FT	0	3	10	0	3	0	2	0	16	10000	250	.
511	1	276	P-H STR/FT	.	3	1	1	.	.	.	1	6	1000	50	.
512	1	178	HIST STRS	.	.	1	.	.	.	.	0	1	1800	50	.
512	2	178	P-H FEATS	.	2	2	.	.	.	1	0	4	50	50	.
512	3	178	P-H STR/FT	.	4	2	1	.	.	1	0	7	4500	600	.
512	4	178	P-H FEATS	.	.	1	.	.	.	.	1	2	10	10	.
512	5	178	P-H STR/FT	.	0	1	1	.	.	1	0	2	760	250	.
512	6	178	P-H STR/FT	.	3	2	1	4	.	1	0	10	15000	250	.
512	7	178	P-H STR/FT	.	.	1	.	.	.	.	0	1	450	50	.
512	8	178	P-H FEATS	0	1	.	.	6	.	1	0	7	150	.	.
512	9	178	P-H STR/FT	.	0	1	.	.	.	1	0	1	300	50	.
512	10	178	P-H STR/FT	.	2	3	2	.	.	1	0	7	1200	150	.
513	1	0	P-H STR/FT	.	2	2	2	.	.	.	0	6	4800	999	.
513	2	0	P-H STR/FT	.	0	1	0	.	.	.	0	1	1000	600	.
514	1	204	P-H FEATS	.	1	2	.	.	.	.	0	3	600	120	.
515	1	0	P-H STR/FT	.	1	1	.	.	.	.	0	2	900	0	.
515	2	0	P-H STR/FT	.	1	1	.	.	.	.	1	3	300	0	.
518	1	0	P-H STR/FT	.	.	1	.	.	.	.	0	1	2100	100	.
519	1	224	P-H STR/FT	.	1	1	.	.	.	.	0	2	200	50	.
519	2	224	P-H STR/FT	.	1	1	.	.	.	.	0	2	600	350	.
520	1	222	P-H STR/FT	.	3	.	.	.	.	.	0	3	750	0	.
521	1	222	P-H STR/FT	1	1	.	.	.	.	.	0	2	250	0	.
522	1	222	P-H STR/FT	1	5	1	.	.	.	.	0	7	10800	999	.
523	1	222	P-H STR/FT	.	.	1	.	.	.	.	0	1	7500	250	.
524	1	0	P-H STR/FT	.	2	1	1	.	.	.	0	4	30000	999	.
525	1	222	P-H FEATS	1	4	.	.	.	.	.	0	5	2000	10	.
525	2	222	P-H FEATS	.	1	.	.	.	.	.	0	1	400	.	.
526	1	219	P-H FEATS	.	1	1	.	.	.	.	1	3	7000	.	.
527	1	219	P-H FEATS	.	1	1	.	.	.	.	0	2	3900	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
528	1	219	P-H FEATS	.	.	1	.	.	.	.	0	1	2000	50	.
529	1	219	P-H STR/FT	.	1	1	.	.	.	.	0	2	2100	60	.
530	1	219	P-H FEATS	.	1	.	.	.	.	.	1	2	48	.	.
531	1	210	P-H FEATS	.	.	.	.	.	.	.	1	1	600	.	.
532	1	210	P-H STR/FT	1	8	1	.	1	.	.	0	11	4000	999	.
532	2	210	P-H STR/FT	1	2	1	.	1	.	.	0	5	3500	800	.
533	1	210	P-H STR/FT	.	1	3	.	.	.	.	0	4	2500	150	.
534	1	0	P-H STR/FT	.	.	3	.	.	.	.	0	3	4800	600	.
534	2	0	P-H STR/FT	.	.	1	.	.	.	.	0	1	800	100	.
535	1	0	P-H FEATS	.	.	.	1	.	.	.	0	1	225	.	.
536	1	265	P-H STR/FT	3	1	3	.	.	.	1	0	7	4000	250	.
538	2	304	P-H FEATS	.	.	1	.	.	.	.	0	1	800	.	.
539	1	265	P-H FEATS	.	.	.	.	.	2	.	0	2	15	.	.
539	2	265	P-H FEATS	.	2	1	.	.	.	.	0	3	800	300	.
540	1	265	P-H FEATS	.	.	1	.	.	.	.	0	1	150	150	.
541	1	265	P-H FEATS	.	.	1	.	.	.	.	0	1	250	.	.
543	1	551	P-H STR/FT	.	4	1	.	.	.	.	0	5	4800	600	.
543	2	551	P-H STR/FT	.	5	1	.	.	.	.	0	6	2400	999	.
543	3	551	P-H STR/FT	.	6	1	.	.	.	.	1	8	8000	999	.
543	4	551	P-H FEATS	.	1	1	.	.	.	.	0	2	800	.	.
543	5	551	P-H FEATS	.	1	1	.	.	.	.	0	2	200	.	.
543	6	551	P-H FEATS	.	1	1	.	.	.	.	0	2	120	.	.
543	7	551	P-H FEATS	.	1	1	.	.	.	.	0	2	140	.	.
543	8	551	P-H FEATS	.	1	1	.	.	.	.	0	2	1000	999	.
543	9	551	P-H STR/FT	.	.	1	.	.	.	.	0	1	850	.	.
543	10	551	P-H STR/FT	.	.	1	.	.	.	.	0	1	1000	.	.
543	11	551	P-H STR/FT	.	.	1	.	.	.	.	0	1	100	.	.
544	1	327	P-H STR/FT	.	.	1	.	.	.	.	0	1	30000	.	.
545	1	327	P-H FEATS	.	.	2	.	.	.	.	0	2	5000	400	.
546	1	169	P-H FEATS	1	.	1	3	.	.	.	1	6	1200	.	2
546	2	169	P-H STR/FT	3	.	11	.	1	.	.	1	16	27000	150	.
547	1	169	P-H FEATS	.	.	.	.	.	.	.	1	1	1350	.	.
547	2	169	P-H FEATS	.	.	.	.	.	.	.	1	1	1700	.	.
548	1	169	P-H STR/FT	.	.	.	.	.	.	.	1	1	4500	.	.
548	2	169	P-H STR/FT	1	.	.	.	.	.	.	1	2	100	25	.
549	1	551	P-H STR/FT	.	1	1	.	.	.	1	0	2	750	150	.
550	1	196	P-H FEATS	.	1	.	.	.	.	.	1	2	1000	.	.
551	1	196	P-H FEATS	.	1	.	.	.	.	.	1	2	160	.	.
552	1	257	P-H FEATS	.	.	2	.	.	.	.	1	3	4200	100	.
553	1	257	P-H FEATS	.	.	.	.	.	.	.	1	1	3000	.	.
554	1	257	P-H STR/FT	2	.	1	.	.	.	1	0	3	300	180	.
554	2	257	P-H FEATS	.	1	1	.	.	.	1	0	2	100	80	.
554	3	257	P-H STR/FT	.	2	1	.	.	.	1	0	3	200	120	.
554	4	257	P-H FEATS	.	.	1	.	.	.	1	0	1	400	200	.
555	1	355	P-H FEATS	.	.	5	.	.	.	7	1	6	80000	250	.
556	2	0	P-H FEATS	.	.	1	.	.	.	.	1	2	200	200	.
557	1	364	P-H FEATS	.	1	.	.	.	.	.	1	2	0	.	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
557	2	364	P-H FEATS	.	.	1	.	.	.	.	1	2	0	48	.
557	3	364	P-H FEATS	.	.	.	.	.	.	.	1	1	0	.	.
558	1	364	P-H STR/FT	.	.	.	.	.	.	.	1	1	100	.	.
559	1	144	P-H STR/FT	.	1	1	.	.	.	.	0	2	750	650	.
559	2	144	P-H STR/FT	.	.	1	.	.	.	.	0	1	200	50	.
559	3	144	P-H STR/FT	.	.	1	.	.	.	.	0	1	350	200	.
559	4	144	P-H STR/FT	.	.	1	.	.	.	.	0	1	450	250	.
560	1	552	P-H STR/FT	4	.	2	1	.	.	.	0	7	6800	600	.
561	1	552	P-H STR/FT	2	.	2	.	1	.	1	0	5	6000	800	.
562	1	374	P-H FEATS	.	.	.	.	.	.	.	1	1	450	.	.
563	1	374	P-H FEATS	.	1	.	.	.	.	.	1	2	12600	.	.
564	1	377	P-H STR/FT	3	.	.	.	.	.	.	1	4	1575	.	.
565	1	377	P-H FEATS	.	1	2	.	.	.	.	0	3	1920	300	.
565	3	377	P-H STR/FT	1	1	1	.	.	.	2	0	3	6050	999	.
565	4	377	P-H FEATS	.	.	.	.	.	.	.	1	1	1750	.	.
565	5	377	P-H FEATS	.	.	.	.	.	.	.	1	1	2000	.	.
566	1	378	P-H FEATS	.	.	.	.	.	.	.	1	1	3000	.	.
567	1	378	P-H STR/FT	.	2	1	.	.	.	.	1	4	29400	999	.
568	1	378	P-H FEATS	.	.	.	.	.	.	.	1	1	3125	.	.
569	1	0	P-H STR/FT	.	.	2	.	.	.	.	0	2	5800	200	.
569	2	0	P-H FEATS	.	.	.	.	.	.	.	1	1	200	200	.
570	1	367	P-H FEATS	.	.	.	.	.	.	1	1	1	600	.	.
572	1	550	P-H FEATS	.	2	5	.	.	.	.	0	7	1200	200	.
573	1	550	P-H FEATS	.	1	.	.	.	.	.	1	2	1200	.	.
574	1	504	P-H FEATS	.	.	.	.	.	.	.	1	1	1200	.	.
575	1	504	P-H FEATS	.	1	1	.	.	.	.	1	3	1000	.	.
576	1	0	P-H STR/FT	.	1	2	.	.	.	.	0	3	6300	999	.
576	2	0	P-H STR/FT	.	.	1	.	.	.	.	0	1	600	150	.
577	1	61	P-H FEATS	.	.	1	.	.	.	.	1	2	0	.	.
578	1	61	P-H FEATS	.	.	.	.	.	.	.	1	1	1300	.	.
578	2	61	P-H FEATS	.	.	.	.	.	6	.	0	6	700	.	.
578	3	61	P-H FEATS	.	.	.	.	3	.	.	1	4	150	150	.
579	1	61	P-H STR/FT	.	2	1	.	.	.	.	0	3	4800	999	.
579	2	61	P-H STR/FT	.	1	1	.	.	.	.	0	2	200	600	.
579	3	61	P-H STR/FT	.	.	2	.	.	.	.	0	2	200	200	.
580	1	61	P-H FEATS	1	1	.	.	.	.	.	1	3	9000	.	.
581	1	88	P-H STR/FT	.	.	1	.	.	.	.	0	1	400	120	.
581	2	88	P-H STR/FT	.	.	1	.	.	.	.	0	1	350	100	.
581	3	88	P-H STR/FT	.	.	1	.	.	.	.	0	1	350	140	.
582	1	89	P-H FEATS	1	.	.	.	.	.	.	1	2	384	.	.
582	2	89	P-H FEATS	.	.	.	.	.	.	.	1	1	96	.	.
583	1	88	P-H FEATS	.	.	.	.	.	.	.	1	1	700	.	.
585	1	78	P-H FEATS	5	3	.	.	.	.	.	1	9	11250	.	.
585	2	78	P-H FEATS	.	.	.	.	.	.	.	1	1	2500	.	.
586	1	78	P-H STR/FT	.	.	2	.	.	.	.	1	3	1000	300	.
586	2	78	P-H STR/FT	1	.	1	.	2	.	.	1	5	400	100	.
586	3	78	P-H STR/FT	.	.	1	.	3	.	.	0	4	400	100	.

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	HEARTHS	ASH/ FCR	MIDDENS	PIT STRUCTURES	WATER CONTROL FEATURES	ROCK ART	RUBBLE FEATURES	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA	MEAN PIT STR DIAM
586	4	78	P-H FEATS	2	.	.	.	.	.	.	1	3	6000	.	.
587	1	78	P-H FEATS	1	.	.	.	.	.	.	1	2	1800	.	.
588	1	78	P-H FEATS	.	.	.	.	.	1	.	1	2	600	.	.
589	1	78	P-H STR/FT	2	1	1	.	.	.	.	0	4	14850	999	.
590	1	191	P-H STR/FT	.	1	3	.	.	.	.	1	5	1200	100	.
591	1	191	P-H FEATS	.	.	.	.	.	.	.	1	1	2700	.	.
593	1	0	P-H STR/FT	.	3	1	.	.	.	.	1	5	22400	600	.
594	1	108	P-H FEATS	.	.	.	.	.	.	.	1	1	2500	.	.
595	1	108	P-H FEATS	.	.	.	.	.	.	.	1	1	1000	.	.
596	1	147	P-H FEATS	.	.	.	.	.	.	.	1	1	3750	.	.
597	1	0	P-H FEATS	.	.	.	.	.	6	.	0	6	100	.	.
598	1	0	P-H STR/FT	.	.	1	.	.	.	.	0	1	15000	750	.
599	1	0	P-H STR/FT	.	.	2	.	.	.	.	1	3	40000	999	.
600	1	557	P-H STR/FT	.	.	2	.	.	4	.	1	7	15000	250	.
601	1	557	P-H FEATS	.	.	.	.	.	.	.	1	1	1000	100	.
603	1	377	P-H FEATS	.	.	3	.	.	.	.	1	4	5000	.	.
604	1	0	P-H STR/FT	1	.	1	.	.	.	.	1	3	5000	.	.
606	1	0	P-H FEATS	.	.	2	.	.	.	.	0	2	1000	.	.
				==	===	===	==	==	==	==	==	===			
				88	306	224	48	40	28	73	81	854			

Site/Architecture: Historic Features

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	CORRALS	TRASH	WIND-MILLS	OVENS	HEARTHS	OUT-BLDGS	WATER TANKS	OTHER FEATURES	TOTAL FEATURES	SITE/ PROV AREA	MEAN MIDDEN AREA
185	1	0	P-H STR/FT	.	1	.	.	.	.	.	.	1	29600	999
242	1	133	L/C SCAT	.	.	.	.	.	.	.	1	1	325	.
242	2	133	HIST FEA/SCAT	.	.	.	.	1	.	.	.	1	1000	.
259	1	467	HIST STRS	1	.	.	.	.	.	.	.	1	900	.
269	2	520	HIST FEA/SCAT	1	.	.	.	.	.	.	.	1	1600	.
271	1	0	HIST STRS	2	1	1	.	1	2	2	4	13	8800	500
282	1	140	HIST FEA/SCAT	.	.	.	.	.	.	.	3	3	2000	.
315	1	442	HIST FEA/SCAT	.	.	.	.	.	.	.	1	1	150	.
320	1	538	HIST STRS	.	.	.	.	.	.	.	1	1	400	.
321	2	418	HIST FEA/SCAT	.	.	.	.	.	.	.	2	2	400	.
331	6	0	P-H FEATS	.	.	.	.	.	.	1	.	1	900	.
465	1	263	HIST STRS	1	1	1	.	.	.	1	1	5	2400	.
482	1	35	C-SCAT	1	.	.	.	1	.	.	.	2	750	.
484	1	38	HIST STRS	1	1	1	1	.	1	.	1	6	1800	.
485	2	0	HIST STRS	1	1	1	1	.	.	.	3	7	7700	.
497	1	556	HIST STRS	7	1	.	.	.	.	.	2	10	7700	.
500	1	533	HIST STRS	1	.	.	.	2	1	.	.	4	3150	.
505	22	199	P-H STR/FT	.	.	.	.	.	.	.	1	1	5500	999
512	1	178	HIST STRS	1	1	.	.	.	1	.	0	3	1800	50
512	2	178	P-H FEATS	.	1	.	.	.	.	.	0	1	50	50
526	1	219	P-H FEATS	.	.	.	.	.	.	.	1	1	7000	.
527	1	219	P-H FEATS	.	.	.	.	.	.	.	1	1	3900	.
538	1	304	HIST FEA/SCAT	1	4	.	.	.	.	.	1	6	4000	100
539	3	265	HIST FEA/SCAT	.	1	.	.	.	.	.	0	1	25	25
556	10	0	L-SCAT	1	1	.	.	.	.	.	1	3	19800	75
565	2	377	HIST FEA/SCAT	.	1	.	.	.	.	.	0	1	640	.
569	1	0	P-H STR/FT	.	2	.	.	.	.	.	1	3	5800	200
571	1	0	HIST STRS	.	1	.	.	1	.	.	0	2	14000	750
581	1	88	P-H STR/FT	.	1	.	.	1	.	.	0	2	400	120
584	1	89	HIST STRS	1	1	.	.	.	1	.	1	4	11250	250
602	1	0	HIST STRS	.	.	.	.	1	1	1	1	4	1600	250
605	1	0	C-SCAT	.	.	.	.	.	.	1	0	1	40000	.
				==	==	=	=	=	=	=	==	==		
				20	20	4	2	8	7	6	27	94		

Site/Architecture: Structural Features

SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	STR ID	TOTAL ROOMS	CONST'N ELE-MENTS	CONST'N TYPE	GROUND PLAN	MAX LENGTH	MAX WIDTH	KIVAS	PLAZAS
185	1	0	P-H STR/FT	1	20	SLABS	INDET	IRREGULAR	30	22	3	.
227	1	150	P-H STR/FT	1	8	1RR BLOCKS	SIMP MSNRY	1RREGULAR	12	11	.	.
228	1	150	P-H STR/FT	1	5	1RR BLOCKS	SIMP MSNRY	SQUARE	12	10	.	.
233	1	163	P-H STR/FT	1	9	MSNRY/JACAL	SIMP MSNRY	L-SHAPE	15	8	.	.
234	1	163	P-H STRS	1	2	IRR BLOCKS	FOUND'N	RECT	5	3	.	.
235	1	163	P-H STR/FT	1	15	1RR BLOCKS	SIMP MSNRY	RECT	16	10	.	.
239	1	133	P-H STRS	1	1	BASALT/BLOCKS	FOUND'N	C1RCULAR	3	2	.	.
247	1	546	P-H STR/FT	1	2	IRR BLOCKS	FOUND'N	RECT	6	3	.	.
248	1	546	P-H STR/FT	1	7	BASALT/BLOCKS	SIMP MSNRY	1RREGULAR	20	10	.	.
251	1	545	P-H STR/FT	1	1	SLABS	FOUND'N	RECT	3	2	.	.
253	1	406	P-H STR/FT	1	3	1RR BLOCKS	FOUND'N	RECT	11	3	.	.
255	1	414	P-H STRS	1	1	IRR BLOCKS	FOUND'N	RECT	5	3	.	.
256	1	414	HIST STRS	1	1	ROUGH LOGS	LOG	RECT	5	5	.	.
259	1	467	HIST STRS	1	1	SLABS	COMPD MSNRY	RECT	5	4	.	.
262	1	0	P-H STRS	1	4	N/A	N/A	N/A	16	4	.	.
263	1	0	P-H STR/FT	1	45	MSNRY/JACAL	SIMP MSNRY	IRREGULAR	45	25	1	1
263	2	0	P-H STR/FT	1	9	BASALT/COBS	FOUND'N	RECT	25	8	0	.
263	3	0	P-H STR/FT	1	.	ADOBE(/JACAL)	ADOBE	RECT	35	20	0	.
266	2	515	P-H STR/FT	1	.	BASALT/COBS	FOUND'N	RECT	10	10	.	.
270	2	438	P-H STR/FT	1	.	MSNRY/JACAL	FOUND'N	1NDET	.	.	.	.
270	3	438	P-H STRS	1	1	SLB/MSNRY/JAC	FOUND'N	SQUARE	.	.	.	.
270	5	438	P-H STR/FT	1	2	SLABS	SIMP MSNRY	RECT	8	3	.	.
270	6	438	P-H STR/FT	1	.	UPRT SLABS	S1MP MSNRY	INDET	.	.	.	.
270	7	438	P-H STR/FT	1	3	UPRT SLABS	S1MP MSNRY	1NDET	.	.	.	.
270	8	438	P-H STR/FT	1	.	UPRT SLABS	SIMP MSNRY	INDET	.	.	.	.
270	9	438	P-H STRS	1	5	MSNRY/JACAL	S1MP MSNRY	RECT	21	3	.	.
270	10	438	P-H STR/FT	1	.	UPRT SLABS	INDET	INDET	.	.	.	.
270	11	438	P-H STR/FT	1	5	UPRT SLABS	INDET	INDET	.	.	.	.
270	12	438	P-H STR/FT	1	.	JACAL	1NDET	1NDET	.	.	.	.
270	13	438	P-H STR/FT	1	.	JACAL	1NDET	1NDET	.	.	.	.
270	14	438	P-H STR/FT	1	.	UPRT SLABS	FOUND'N	1NDET	.	.	.	.
270	15	438	P-H STR/FT	1	.	SLB/UPRT SLB	1NDET	1NDET	.	.	.	.
270	16	438	P-H STR/FT	1	.	UPRT SLABS	1NDET	1NDET	.	.	.	.
270	17	438	P-H STR/FT	1	.	MSNRY/JACAL	SIMP MSNRY	L-SHAPE	10	8	.	.
270	18	438	P-H STR/FT	1	2	IRR BLOCKS	S1MP MSNRY	RECT	8	4	.	.
270	20	438	P-H STR/FT	1	33	SHPD BLK/JAC	SIMP MSNRY	1RREGULAR	46	24	3	.
270	21	438	P-H STRS	1	2	JACAL	FOUND'N	RECT	10	3	.	.
270	22	438	P-H STRS	1	2	MSNRY/JACAL	FOUND'N	RECT	8	3	.	.
271	1	0	HIST STRS	1	5	ROUGH LOGS	LOG	1RREGULAR	25	8	.	.
273	1	187	P-H STR/FT	1	2	BASALT/COBS	SIMP MSNRY	RECT	6	3	.	.
273	2	187	P-H STRS	1	2	BSLT/COB/JAC	SIMP MSNRY	RECT	6	3	.	.
273	3	187	P-H STRS	1	1	BASALT/COBS	SIMP MSNRY	RECT	3	3	.	.
275	1	187	P-H STRS	1	1	BASALT/COBS	SIMP MSNRY	RECT	5	4	.	.
275	2	187	P-H STRS	1	1	BSLT/COB/JAC	FOUND'N	SQUARE	3	3	.	.
275	3	187	P-H STR/FT	1	4	BASALT/COBS	SIMP MSNRY	RECT	8	4	.	.
279	1	187	P-H STR/FT	1	1	BASALT/BLOCKS	S1MP MSNRY	RECT	7	4	.	.
280	1	191	P-H STR/FT	1	6	BASALT/COBS	FOUND'N	RECT	15	10	.	.

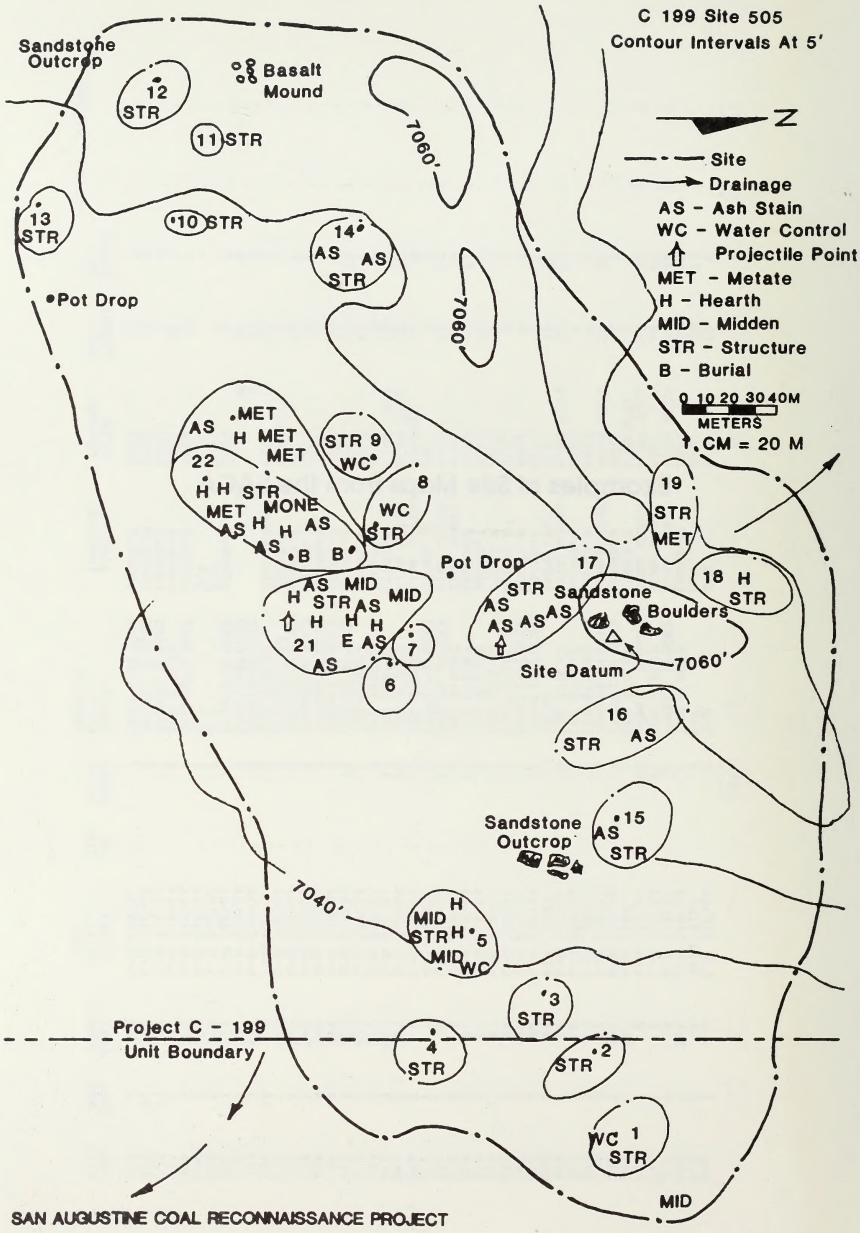
SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	STR ID	TOTAL ROOMS	CONST'N ELE-MENTS	CONST'N TYPE	GROUND PLAN	MAX LENGTH	MAX WIDTH	KIVAS	PLAZAS
280	2	191	P-H STRS	1	2	BASALT/COBS	FOUND'N	IRREGULAR	8	5	.	.
280	3	191	P-H STRS	1	6	BASALT/COBS	FOUND'N	RECT	9	6	.	.
280	4	191	P-H STRS	1	2	BASALT/COBS	FOUND'N	RECT	8	4	.	.
281	2	191	P-H STRS	1	.	BASALT/COBS	INDET	INDET	10	3	.	.
290	1	0	P-H STR/FT	1	4	SLABS	SIMP MSNRY	INDET	5	5	.	.
291	1	40	P-H STR/FT	1	14	SLABS	SIMP MSNRY	RECT	14	10	.	.
296	1	40	P-H STRS	1	2	SLABS	FOUND'N	RECT	6	2	.	.
314	1	442	P-H STR/FT	1	7	SLB/MSNRY/JAC	COMPD MSNRY	SQUARE	13	10	.	.
318	1	538	P-H STRS	1	2	BASALT/BLOCKS	SIMP MSNRY	RECT	4	3	.	.
320	1	538	HIST STRS	1	1	IRR BLOCKS	COMPD MSNRY	SQUARE	3	3	.	.
321	1	418	P-H STRS	1	2	IRR BLOCKS	SIMP MSNRY	RECT	8	6	.	.
323	1	416	HIST STRS	1	1	IRR BLOCKS	COMPD MSNRY	RECT	12	7	.	.
326	1	0	P-H STRS	1	5	BASALT/BLOCKS	FOUND'N	IRREGULAR	6	4	.	.
326	2	0	P-H STRS	1	2	BSLT/COB/JAC	FOUND'N	RECT	7	4	.	.
327	1	331	P-H STR/FT	1	.	IRR BLOCKS	SIMP MSNRY	RECT	14	10	.	.
327	2	331	P-H STR/FT	1	.	IRR BLOCKS	SIMP MSNRY	RECT	15	11	.	.
328	1	191	P-H STRS	1	4	BASALT/COBS	SIMP MSNRY	L-SHAPE	8	8	.	.
329	1	191	P-H STR/FT	1	3	BASALT/COBS	FOUND'N	RECT	8	3	.	.
330	1	0	P-H STR/FT	1	10	BASALT/BLOCKS	SIMP MSNRY	RECT	20	8	.	.
330	2	0	P-H STR/FT	1	4	BASALT/BLOCKS	SIMP MSNRY	RECT	20	6	1	.
330	3	0	P-H STR/FT	1	21	BASALT/BLOCKS	SIMP MSNRY	RECT	26	12	.	.
331	1	0	P-H STRS	1	45	SLB/MSNRY/JAC	CORE/VENEER	L-SHAPE	70	38	1	.
331	3	0	P-H STRS	1	4	SLB/MSNRY/JAC	CORE/VENEER	ARC	25	23	1	.
331	5	0	P-H STRS	1	.	N/A	N/A	N/A	100	90	.	1
331	7	0	P-H STRS	1	2	SLB/MSNRY/JAC	COMPD MSNRY	RECT	5	3	.	.
333	1	0	P-H STRS	1	15	IRR BLOCKS	SIMP MSNRY	IRREGULAR	23	23	.	.
333	2	0	P-H STRS	1	21	IRR BLOCKS	SIMP MSNRY	IRREGULAR	40	18	.	.
333	3	0	P-H STRS	1	7	IRR BLOCKS	SIMP MSNRY	L-SHAPE	22	10	.	.
333	4	0	P-H STRS	1	2	IRR BLOCKS	SIMP MSNRY	RECT	6	3	.	.
333	5	0	P-H STRS	1	9	IRR BLOCKS	SIMP MSNRY	IRREGULAR	30	15	.	.
333	6	0	P-H STRS	1	4	IRR BLOCKS	SIMP MSNRY	L-SHAPE	8	6	.	.
333	8	0	P-H STRS	1	1	IRR BLOCKS	SIMP MSNRY	SQUARE	8	8	.	.
333	9	0	P-H STRS	1	2	IRR BLOCKS	SIMP MSNRY	SQUARE	22	8	.	.
333	11	0	P-H STRS	1	7	IRR BLOCKS	SIMP MSNRY	L-SHAPE	25	15	.	.
333	12	0	P-H STRS	1	16	IRR BLOCKS	SIMP MSNRY	IRREGULAR	45	30	.	.
333	13	0	P-H STRS	1	5	IRR BLOCKS	SIMP MSNRY	IRREGULAR	10	6	.	.
333	14	0	P-H STR/FT	1	.	IRR BLOCKS	SIMP MSNRY	INDET	8	2	.	.
333	15	0	P-H STRS	1	2	IRR BLOCKS	SIMP MSNRY	RECT	8	3	.	.
333	16	0	P-H STR/FT	1	2	IRR BLOCKS	SIMP MSNRY	RECT	10	8	.	.
333	17	0	P-H STRS	1	2	IRR BLOCKS	SIMP MSNRY	L-SHAPE	6	4	.	.
333	18	0	P-H STRS	1	2	IRR BLOCKS	SIMP MSNRY	RECT	6	3	.	.
333	19	0	P-H STRS	1	6	IRR BLOCKS	SIMP MSNRY	L-SHAPE	13	6	.	.
333	20	0	P-H STRS	1	3	IRR BLOCKS	SIMP MSNRY	L-SHAPE	6	6	.	.
333	21	0	P-H STRS	1	8	IRR BLOCKS	SIMP MSNRY	IRREGULAR	17	8	.	.
333	22	0	P-H STRS	1	5	IRR BLOCKS	SIMP MSNRY	L-SHAPE	12	8	.	.
333	23	0	P-H STRS	1	1	IRR BLOCKS	SIMP MSNRY	SQUARE	4	4	.	.
333	24	0	P-H STRS	1	1	IRR BLOCKS	SIMP MSNRY	SQUARE	3	3	.	.

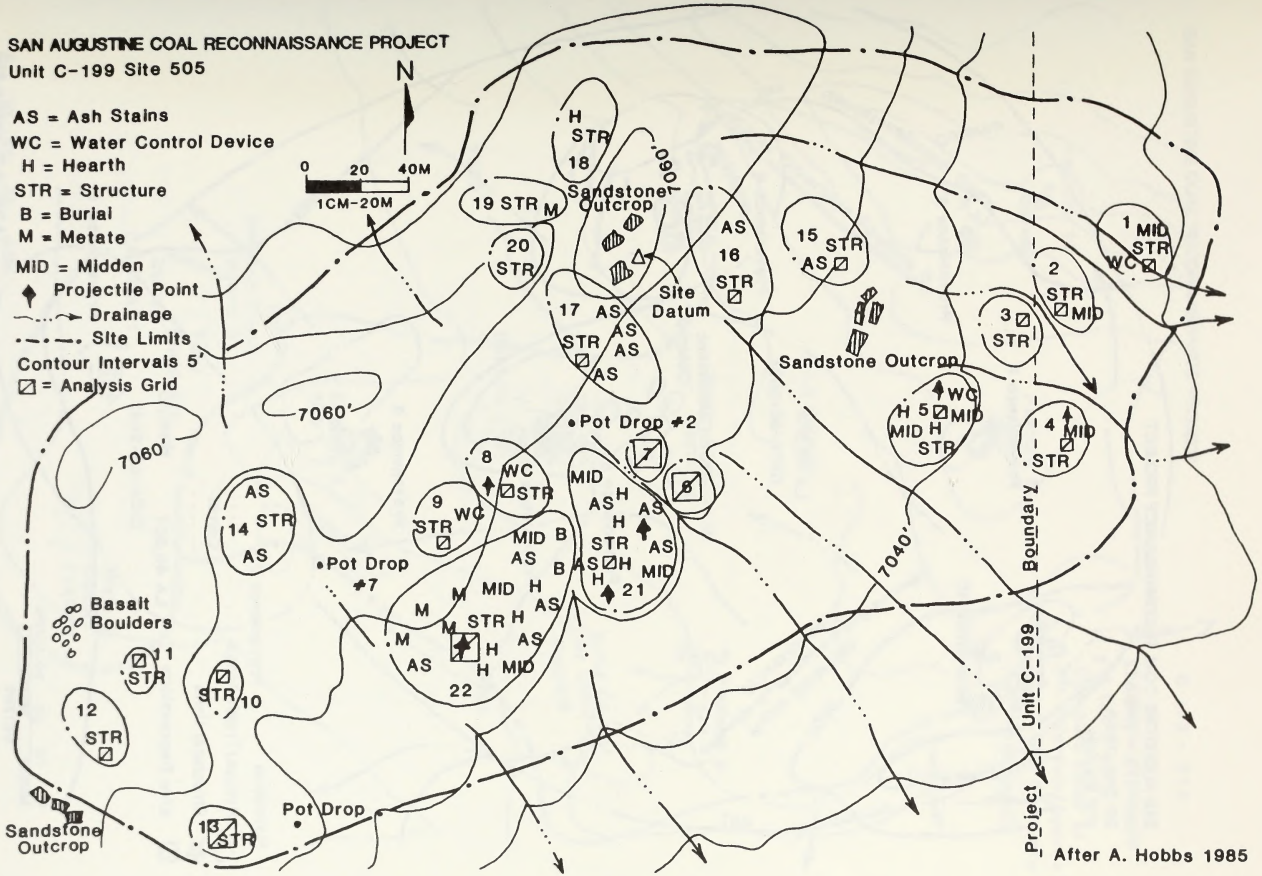
SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	STR ID	TOTAL ROOMS	CONST'N ELE-MENTS	CONST'N TYPE	GROUND PLAN	MAX LENGTH	MAX WIDTH	KIVAS	PLAZAS
335	1	0	P-H STR/FT	1	.	BASALT/COBS	INDET	INDET	.	.	.	.
429	2	0	P-H STRS	1	4	SHAPED BLOCKS	SIMP MSNRY	RECT	10	5	.	.
450	1	514	P-H STR/FT	1	2	BASALT/BLOCKS	SIMP MSNRY	RECT	17	12	.	.
453	1	514	P-H STR/FT	1	3	BASALT/BLOCKS	SIMP MSNRY	L-SHAPE	10	4	.	.
456	1	64	P-H STRS	1	2	1RR BLOCKS	SIMP MSNRY	RECT	7	3	.	.
462	1	437	P-H STR/FT	1	15	1RR BLOCKS	SIMP MSNRY	RECT	14	10	.	.
465	1	263	HIST STRS	1	2	BRD/BAT/BARK	FRAME	RECT	.	.	.	.
466	1	8	HIST STRS	1	1	ADOBE(/JACAL)	ADOBE	SQUARE	4	4	.	.
468	2	0	P-H STR/FT	1	2	1RR BLOCKS	SIMP MSNRY	1RREGULAR	6	2	.	.
469	1	0	P-H STRS	1	3	BASALT/COBS	SIMP MSNRY	SQUARE	6	6	.	.
471	1	35	P-H STR/FT	1	2	BASALT/BLOCKS	SIMP MSNRY	RECT	5	3	.	.
472	1	0	P-H STRS	1	38	SLABS	CORE/VENEER	RECT	46	45	4	.
472	2	0	P-H STRS	1	32	SLABS	COMPD MSNRY	L-SHAPE	37	12	0	.
472	3	0	P-H STR/FT	1	34	SLABS	COMPD MSNRY	SQUARE	26	24	1	.
472	4	0	P-H STR/FT	1	12	SLABS	COMPD MSNRY	RECT	18	5	3	.
472	5	0	P-H STR/FT	1	13	SLABS	COMPD MSNRY	ARC	32	10	3	.
472	6	0	P-H STR/FT	1	4	SLABS	COMPD MSNRY	SQUARE	8	7	.	.
472	7	0	P-H STR/FT	1	11	SLABS	COMPD MSNRY	L-SHAPE	20	10	.	.
472	8	0	P-H STR/FT	1	10	SLABS	COMPD MSNRY	L-SHAPE	40	23	2	.
472	9	0	P-H STRS	1	9	SLABS	COMPD MSNRY	SQUARE	9	9	.	.
472	10	0	P-H STR/FT	1	4	SLABS	COMPD MSNRY	SQUARE	7	6	.	.
473	1	156	P-H STR/FT	1	15	SLABS	SIMP MSNRY	1RREGULAR	15	12	.	.
476	1	162	P-H STR/FT	1	8	SLABS	SIMP MSNRY	ARC	.	.	.	.
479	1	162	P-H STR/FT	1	1	SLABS	SIMP MSNRY	SQUARE	.	.	.	.
480	1	162	P-H STR/FT	1	2	1RR BLOCKS	SIMP MSNRY	RECT	8	6	.	.
481	1	0	P-H STRS	1	50	SHAPED BLOCKS	SIMP MSNRY	W1NG RECT	24	12	1	.
483	1	39	P-H STRS	1	3	BASALT/BLOCKS	SIMP MSNRY	SQUARE	4	3	.	.
484	1	38	HIST STRS	1	2	ADOBE(/JACAL)	ADOBE	RECT	6	3	.	.
485	2	0	HIST STRS	1	3	SLABS	SIMP MSNRY	SQUARE	14	5	.	.
490	1	41	P-H STRS	1	2	UPRT SLABS	FOUND'N	RECT	6	3	.	.
497	1	556	HIST STRS	1	1	IRR BLOCKS	COMPD MSNRY	RECT	7	4	.	.
498	1	533	HIST STRS	1	1	ADOBE(/JACAL)	ADOBE	RECT	8	8	.	.
500	1	533	HIST STRS	1	4	JACAL	JACAL(ADB)	RECT	13	10	.	.
504	1	334	P-H STR/FT	.	1	IRR BLOCKS	FOUND'N	CIRCULAR	5	5	.	.
505	1	199	P-H STR/FT	.	2	BASALT/BLOCKS	FOUND'N	RECT	10	10	.	.
505	2	199	P-H STR/FT	.	4	BASALT/BLOCKS	SIMP MSNRY	RECT	10	6	.	.
505	3	199	P-H STR/FT	.	1	BASALT/BLOCKS	FOUND'N	8	5	5	.	.
505	4	199	P-H STR/FT	.	1	BASALT/BLOCKS	FOUND'N	RECT	10	10	.	.
505	5	199	P-H STR/FT	.	2	BASALT/BLOCKS	FOUND'N	RECT	10	10	.	.
505	8	199	P-H STR/FT	.	3	BASALT/COBS	JACAL(ADB)	1NDET	30	10	.	.
505	9	199	P-H STR/FT	.	2	BASALT/COBS	FOUND'N	8	16	4	.	.
505	10	199	P-H STR/FT	.	1	BASALT/COBS	9	8	20	4	.	.
505	11	199	P-H STR/FT	.	2	BASALT/COBS	SIMP MSNRY	RECT	22	7	.	.
505	12	199	P-H STR/FT	.	1	BASALT/COBS	FOUND'N	RECT	8	4	.	.
505	13	199	P-H STR/FT	.	2	BASALT/COBS	9	8	25	16	.	.
505	14	199	P-H STR/FT	.	1	BASALT/COBS	FOUND'N	RECT	8	6	.	.
505	15	199	P-H STR/FT	.	2	BASALT/COBS	FOUND'N	8	15	8	.	.

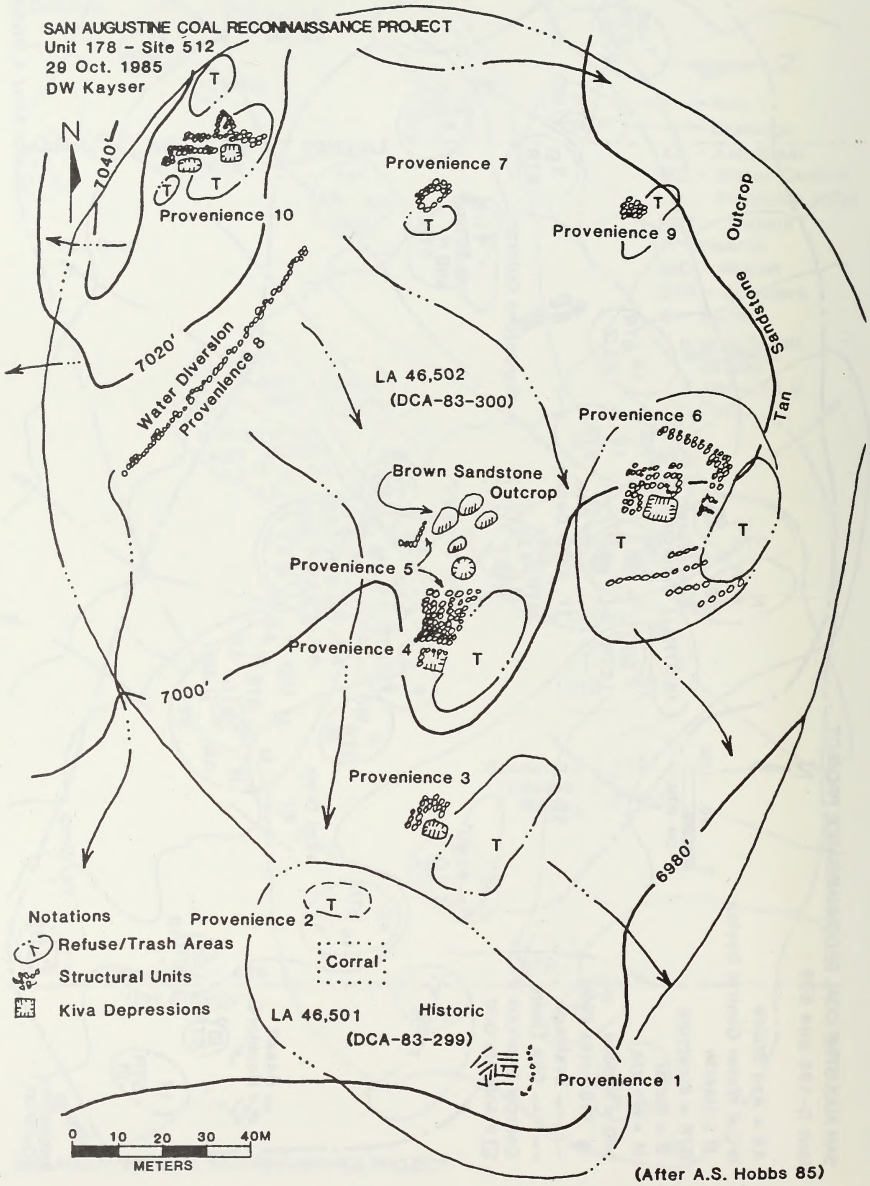
SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	STR ID	TOTAL ROOMS	CONST'N ELE-MENTS	CONST'N TYPE	GROUND PLAN	MAX LENGTH	MAX WIDTH	KIVAS	PLAZAS
505	16	199	P-H STR/FT	.	12	BASALT/COBS	FOUND'N	RECT	45	12	.	.
505	17	199	P-H STR/FT	.	5	BASALT/COBS	FOUND'N	RECT	20	5	.	.
505	18	199	P-H STR/FT	.	6	BASALT/COBS	FOUNO'N	RECT	35	20	.	.
505	19	199	P-H STR/FT	.	2	BASALT/COBS	9	8	15	10	.	.
505	20	199	P-H STR/FT	.	3	BASALT/COBS	FOUND'N	8	10	20	.	.
505	21	199	P-H STR/FT	.	2	BASALT/COBS	FOUND'N	IRREGULAR	20	10	.	.
505	22	199	P-H STR/FT	.	6	BASALT/COBS	9	8	50	20	.	.
506	1	275	P-H STR/FT	.	15	BASALT/BLOCKS	FOUND'N	WING RECT	45	10	1	1
506	2	275	P-H STRS	.	1	BASALT/COBS	FOUND'N	SQUARE	10	5	0	0
509	1	276	P-H STR/FT	.	4	BASALT/BLOCKS	FOUND'N	N/A	120	6	.	.
509	2	276	P-H STR/FT	.	2	BASALT/BLOCKS	FOUND'N	N/A	100	5	.	.
510	1	276	P-H STR/FT	.	4	BASALT/BLOCKS	FOUND'N	8	15	5	.	.
511	1	276	P-H STR/FT	.	6	BASALT/BLOCKS	SIMP MSNRY	RECT	10	10	1	.
512	1	178	HIST STRS	.	2	HEWN LOGS	LOG	SQUARE	10	10	.	.
512	3	178	P-H STR/FT	.	6	BASALT/BLOCKS	FOUND'N	IRREGULAR	25	10	1	.
512	5	178	P-H STR/FT	.	6	BASALT/BLOCKS	SIMP MSNRY	WING RECT	25	15	2	.
512	6	178	P-H STR/FT	.	15	BASALT/BLOCKS	SIMP MSNRY	RECT	25	15	1	.
512	7	178	P-H STR/FT	.	2	BASALT/BLOCKS	9	8	10	5	.	.
512	9	178	P-H STR/FT	.	2	BASALT/BLOCKS	FOUND'N	WING RECT	8	6	.	.
512	10	178	P-H STR/FT	.	15	BASALT/BLOCKS	SIMP MSNRY	IRREGULAR	20	15	2	.
513	1	0	P-H STR/FT	.	30	S-S CHINKS	COMPD MSNRY	L-SHAPE	26	24	1	1
513	2	0	P-H STR/FT	.	5	SHAPED BLOCKS	FOUND'N	RECT	10	10	.	.
515	1	0	P-H STR/FT	.	1	N/A	N/A	N/A	4	3	.	.
515	2	0	P-H STR/FT	.	1	N/A	N/A	N/A	2	.	.	.
516	1	0	P-H STRS	.	2	BASALT/COBS	FOUND'N	RECT	5	3	.	.
516	2	0	P-H STRS	.	2	BASALT/COBS	FOUND'N	RECT	3	2	.	.
517	1	0	P-H STRS	.	1	HEWN LOGS	LOG	RECT	5	4	.	.
518	1	0	P-H STR/FT	.	4	BASALT/COBS	FOUND'N	N/A	.	.	.	.
519	1	224	P-H STR/FT	.	2	BASALT/BLOCKS	FOUNO'N	RECT	16	10	.	.
519	2	224	P-H STR/FT	.	2	BASALT/BLOCKS	FOUNO'N	RECT	15	10	.	.
520	1	222	P-H STR/FT	.	1	IRR BLOCKS	FOUNO'N	RECT	5	3	.	.
521	1	222	P-H STR/FT	.	1	BASALT/BLOCKS	FOUNO'N	RECT	5	2	.	.
522	1	222	P-H STR/FT	.	10	BASALT/BLOCKS	FOUNO'N	L-SHAPE	30	25	.	.
523	1	222	P-H STR/FT	.	2	BASALT/BLOCKS	FOUNO'N	IRREGULAR	5	3	.	.
524	1	0	P-H STR/FT	.	15	BASALT/BLOCKS	SIMP MSNRY	L-SHAPE	25	25	1	1
529	1	219	P-H STR/FT	.	1	N/A	N/A	N/A	.	.	.	.
532	1	210	P-H STR/FT	.	8	BASALT/BLOCKS	FOUND'N	RECT	9	3	0	.
532	2	210	P-H STR/FT	.	6	BASALT/BLOCKS	FOUNO'N	RECT	4	2	0	.
533	1	210	P-H STR/FT	.	15	BASALT/BLOCKS	SIMP MSNRY	L-SHAPE	35	30	.	.
534	1	0	P-H STR/FT	.	25	SHAPED BLOCKS	COMPD MSNRY	WING RECT	35	30	1	1
534	2	0	P-H STR/FT	.	6	BASALT/COBS	FOUND'N	RECT	15	5	.	.
536	1	265	P-H STR/FT	.	6	SLABS	9	8	10	10	.	.
537	1	265	P-H STRS	.	1	SLABS	FOUND'N	RECT	2	3	.	.
542	1	266	P-H STRS	.	1	SLABS	FOUNO'N	CIRCULAR	2	2	.	.
543	1	551	P-H STR/FT	.	34	SHAPED BLOCKS	COMPD MSNRY	RECT	50	30	1	1
543	2	551	P-H STR/FT	.	20	AOOBE(/JACAL)	AOOBE	RECT	25	10	.	.
543	3	551	P-H STR/FT	.	8	BASALT/BLOCKS	FOUNO'N	RECT	20	5	.	.

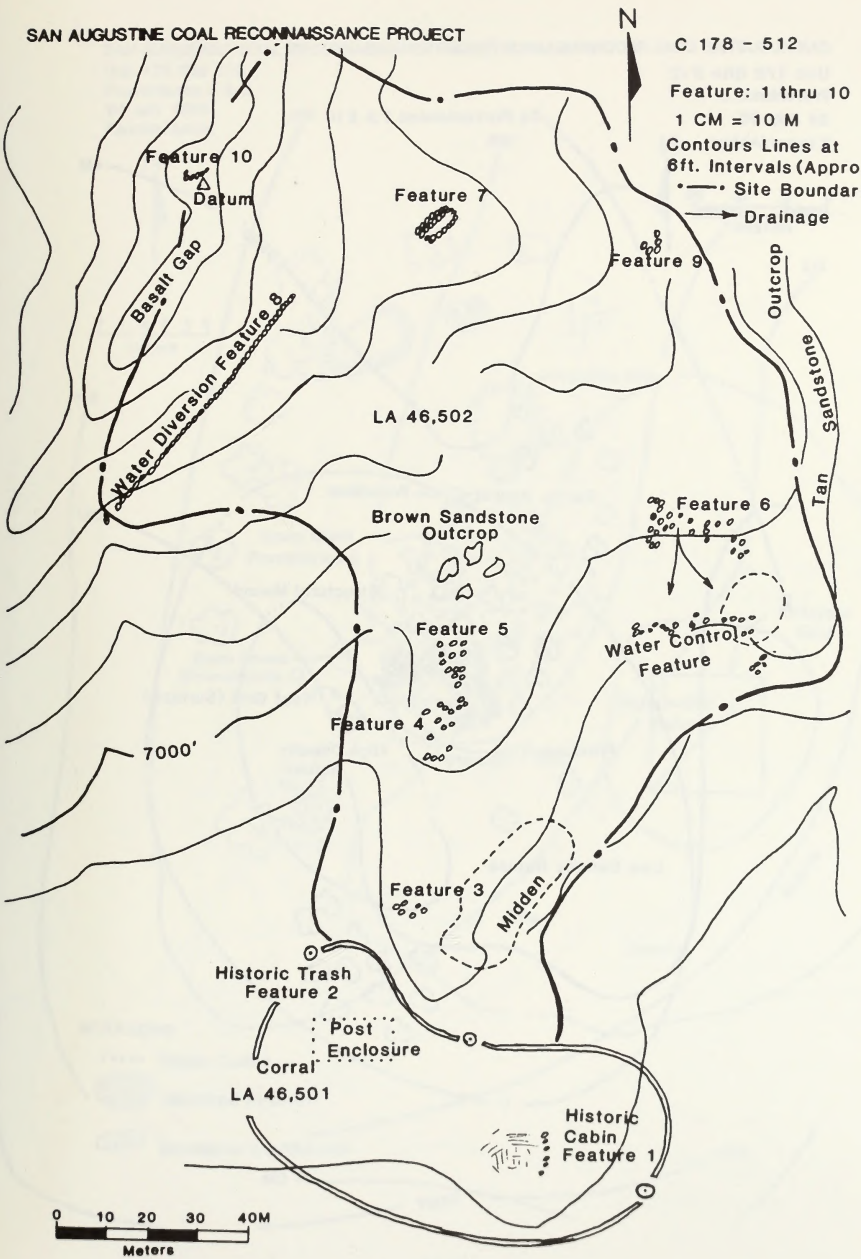
SITE NO	PROV UNIT	SAMPLE UNIT	GEN SITE CLASS	STR ID	TOTAL ROOMS	CONST'N ELE-MENTS	CONST'N TYPE	GROUND PLAN	MAX LENGTH	MAX WIDTH	KIVAS	PLAZAS
543	9	551	P-H STR/FT	.	1	BASALT/BLOCKS	FOUND'N	RECT	3	2	.	.
543	10	551	P-H STR/FT	.	1	BASALT/BLOCKS	FOUND'N	RECT	3	2	.	.
543	11	551	P-H STR/FT	.	1	BASALT/BLOCKS	FOUND'N	RECT	3	2	.	.
544	1	327	P-H STR/FT	.	8	IRR BLOCKS	FOUND'N	RECT	20	5	.	.
546	2	169	P-H STR/FT	.	1	BASALT/BLOCKS	FOUND'N	RECT	3	1	.	.
548	1	169	P-H STR/FT	.	1	N/A	N/A	N/A	.	.	.	.
548	2	169	P-H STR/FT	.	1	N/A	N/A	N/A	.	.	.	.
549	1	551	P-H STR/FT	.	4	BASALT/BLOCKS	FOUND'N	RECT	8	2	.	.
554	1	257	P-H STR/FT	.	2	BASALT/BLOCKS	9	8	10	5	.	.
554	3	257	P-H STR/FT	.	2	BASALT/BLOCKS	9	8	10	5	.	.
556	10	0	L-SCAT	.	2	IRR BLOCKS	SIMP MSNRY	RECT	10	5	.	.
558	1	364	P-H STR/FT	.	1	BASALT/COBS	FOUND'N	CIRCULAR	3	3	.	.
559	1	144	P-H STR/FT	.	4	SHAPED BLOCKS	FOUND'N	RECT	10	6	.	.
559	2	144	P-H STR/FT	.	2	SHAPED BLOCKS	FOUND'N	RECT	8	4	.	.
559	3	144	P-H STR/FT	.	1	SHAPED BLOCKS	FOUND'N	RECT	5	3	.	.
559	4	144	P-H STR/FT	.	2	SHAPED BLOCKS	FOUND'N	RECT	10	6	.	.
560	1	552	P-H STR/FT	.	10	SHAPED BLOCKS	FOUND'N	RECT	20	12	1	.
561	1	552	P-H STR/FT	.	6	IRR BLOCKS	FOUND'N	RECT	10	6	.	.
564	1	377	P-H STR/FT	.	1	IRR BLOCKS	FOUND'N	RECT	5	6	.	.
565	3	377	P-H STR/FT	.	10	IRR BLOCKS	FOUND'N	WING RECT	15	10	.	1
567	1	378	P-H STR/FT	.	10	IRR BLOCKS	SIMP MSNRY	WING RECT	30	20	1	1
569	1	0	P-H STR/FT	.	2	IRR BLOCKS	SIMP MSNRY	SQUARE	5	3	.	.
571	1	0	HIST STRS	.	2	BASALT/BLOCKS	FOUND'N	RECT	8	5	.	.
576	1	0	P-H STR/FT	.	15	SHAPED BLOCKS	SIMP MSNRY	RECT	15	10	1	.
576	2	0	P-H STR/FT	.	4	IRR BLOCKS	SIMP MSNRY	RECT	6	4	.	.
579	1	61	P-H STR/FT	.	10	IRR BLOCKS	FOUND'N	RECT	30	10	1	.
579	2	61	P-H STR/FT	.	4	IRR BLOCKS	FOUND'N	RECT	10	5	.	.
579	3	61	P-H STR/FT	.	1	IRR BLOCKS	FOUND'N	RECT	5	2	.	.
581	1	88	P-H STR/FT	.	2	BASALT/BLOCKS	FOUND'N	RECT	8	2	.	.
581	2	88	P-H STR/FT	.	2	BASALT/BLOCKS	FOUND'N	RECT	6	2	.	.
581	3	88	P-H STR/FT	.	1	BASALT/BLOCKS	FOUND'N	RECT	3	2	.	.
584	1	89	HIST STRS	.	2	JACAL	JACAL(ADB)	N/A	10	10	.	.
586	1	78	P-H STR/FT	.	20	IRR BLOCKS	SIMP MSNRY	WING RECT	20	10	1	.
586	2	78	P-H STR/FT	.	2	IRR BLOCKS	FOUND'N	RECT	6	4	.	.
586	3	78	P-H STR/FT	.	2	IRR BLOCKS	FOUND'N	RECT	6	4	.	.
589	1	78	P-H STR/FT	.	10	SHAPED BLOCKS	COMPD MSNRY	WING RECT	20	10	.	.
590	1	191	P-H STR/FT	.	4	BASALT/BLOCKS	FOUND'N	RECT	8	5	.	.
592	1	191	P-H STRS	.	1	IRR BLOCKS	FOUND'N	CIRCULAR	1	1	.	.
593	1	0	P-H STR/FT	.	25	SHAPED BLOCKS	SIMP MSNRY	WING RECT	25	20	1	1
598	1	0	P-H STR/FT	.	12	IRR BLOCKS	SIMP MSNRY	RECT	20	10	.	.
599	1	0	P-H STR/FT	.	35	SHAPED BLOCKS	SIMP MSNRY	WING RECT	140	50	1	1
600	1	557	P-H STR/FT	.	8	IRR BLOCKS	FOUND'N	RECT	20	10	.	.
602	1	0	HIST STRS	.	5	N/A	N/A	N/A	20	10	.	.
604	1	0	P-H STR/FT	.	4	N/A	N/A	N/A	10	5	.	.
					====						==	==
					1366						43	11

Examples of Site Maps from the SACA

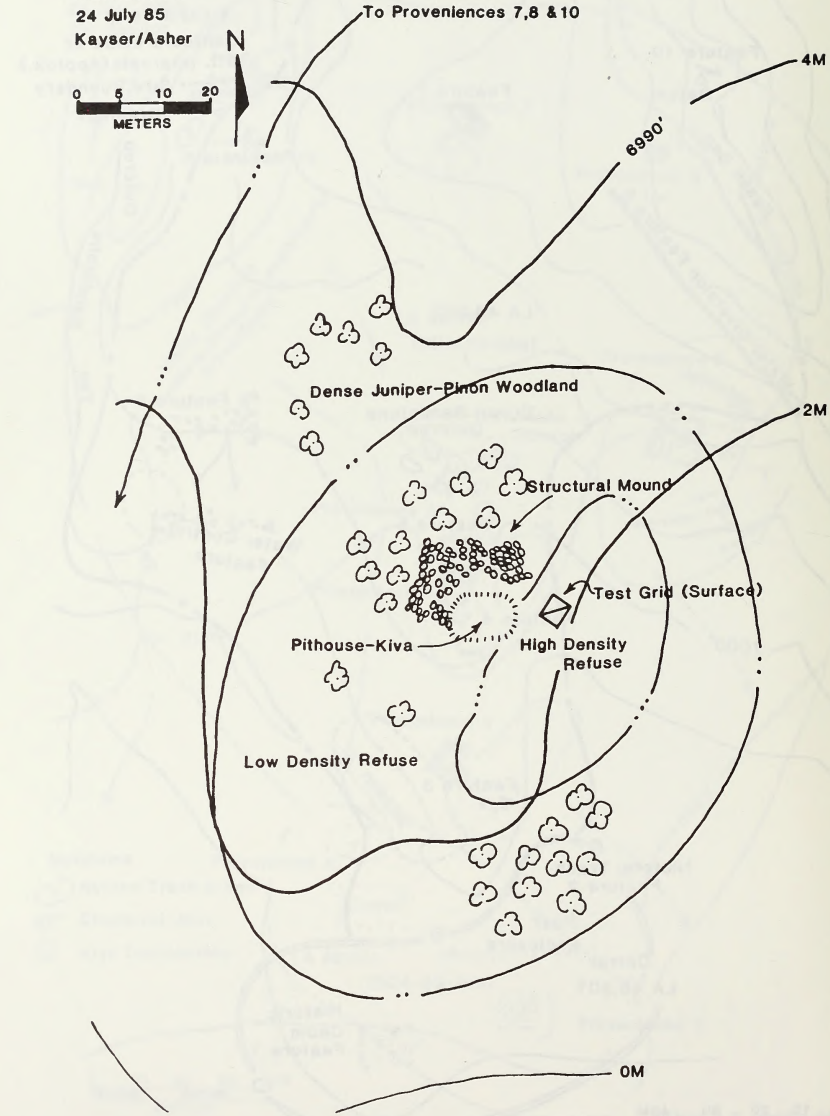

C 199 Site 505
Contour Intervals At 5'
Sandstone Outcrop
Basalt Mound
12 STR
11 STR
10 STR
13 STR
14 AS AS STR
Pot Drop
7060'
7080'
N
Site
Drainage
AS - Ash Stain
WC - Water Control
Projectile Point
MET - Metate
H - Hearth
MID - Midden
STR - Structure
B - Burial
0 10 20 30 40M
METERS
1 CM = 20 M
AS MET H MET MET
22 H H STR MET MONE AS H H AS AS B B
STR 9 WC
8 WC STR
19 STR MET
18 H STR
Pot Drop
17 STR Sandstone AS AS AS AS Boulders
Site Datum
7060'
AS MID H STR AS MID H H H 21 E AS AS
7
6
16 STR AS
Sandstone Outcrop
15 AS STR
7040'
H MID STR H 5 MID WC
3 STR
4 STR
2 STR
WC 1 STR
MID
Project C - 199
Unit Boundary
SAN AUGUSTINE COAL RECONNAISSANCE PROJECT

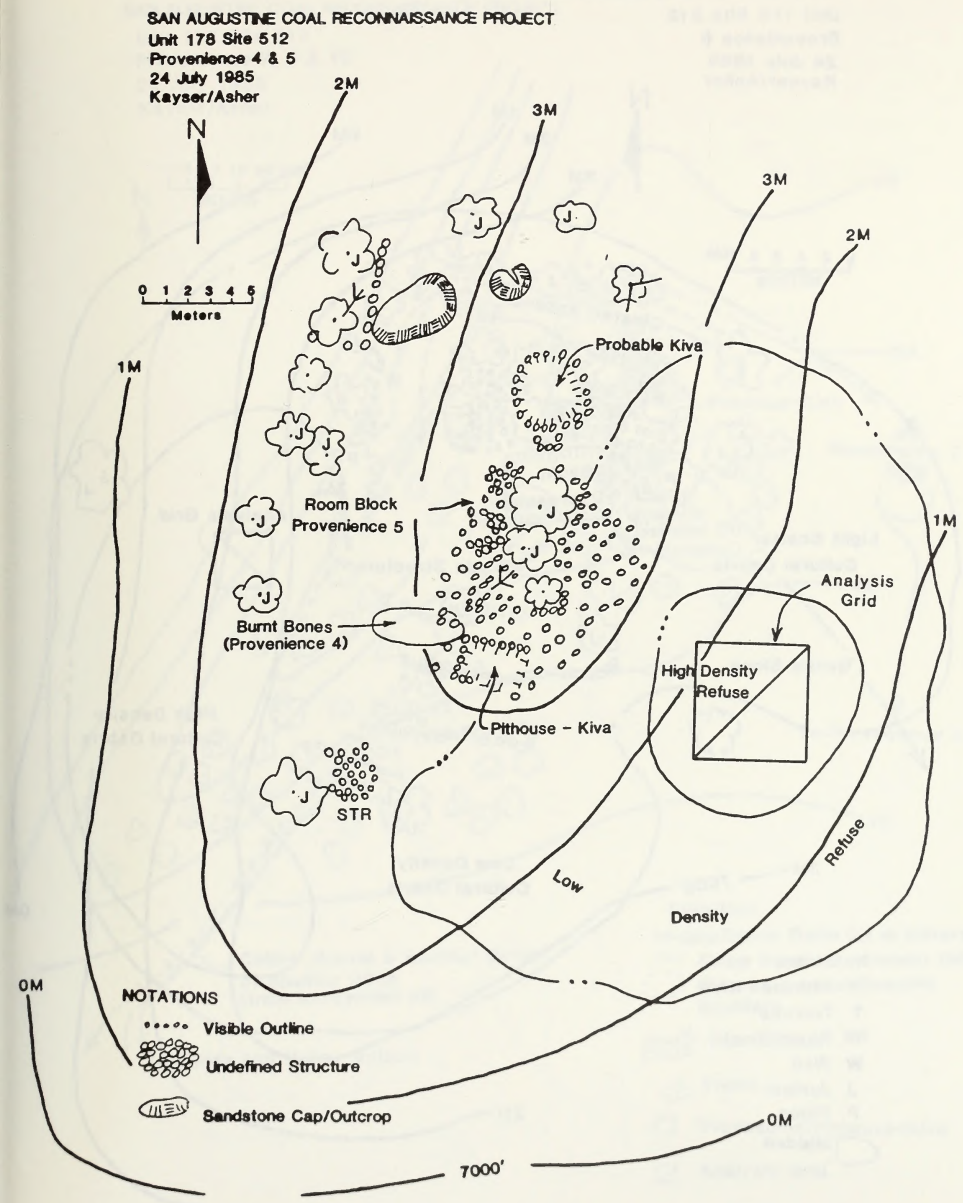

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit C-199 Site 505
N
AS = Ash Stains
WC = Water Control Device
H = Hearth
STR = Structure
B = Burial
M = Metate
MID = Midden
Projectile Point
Drainage
Site Limits
Contour Intervals 5'
= Analysis Grid
0 20 40M
1CM-20M
Sandstone Outcrop
Site Datum
Pot Drop #2
Pot Drop #7
Pot Drop
Basalt Boulders
Sandstone Outcrop
Sandstone Outcrop
7060'
7060'
7040'
090°
Boundary
Unit C-199
Project
After A. Hobbs 1985

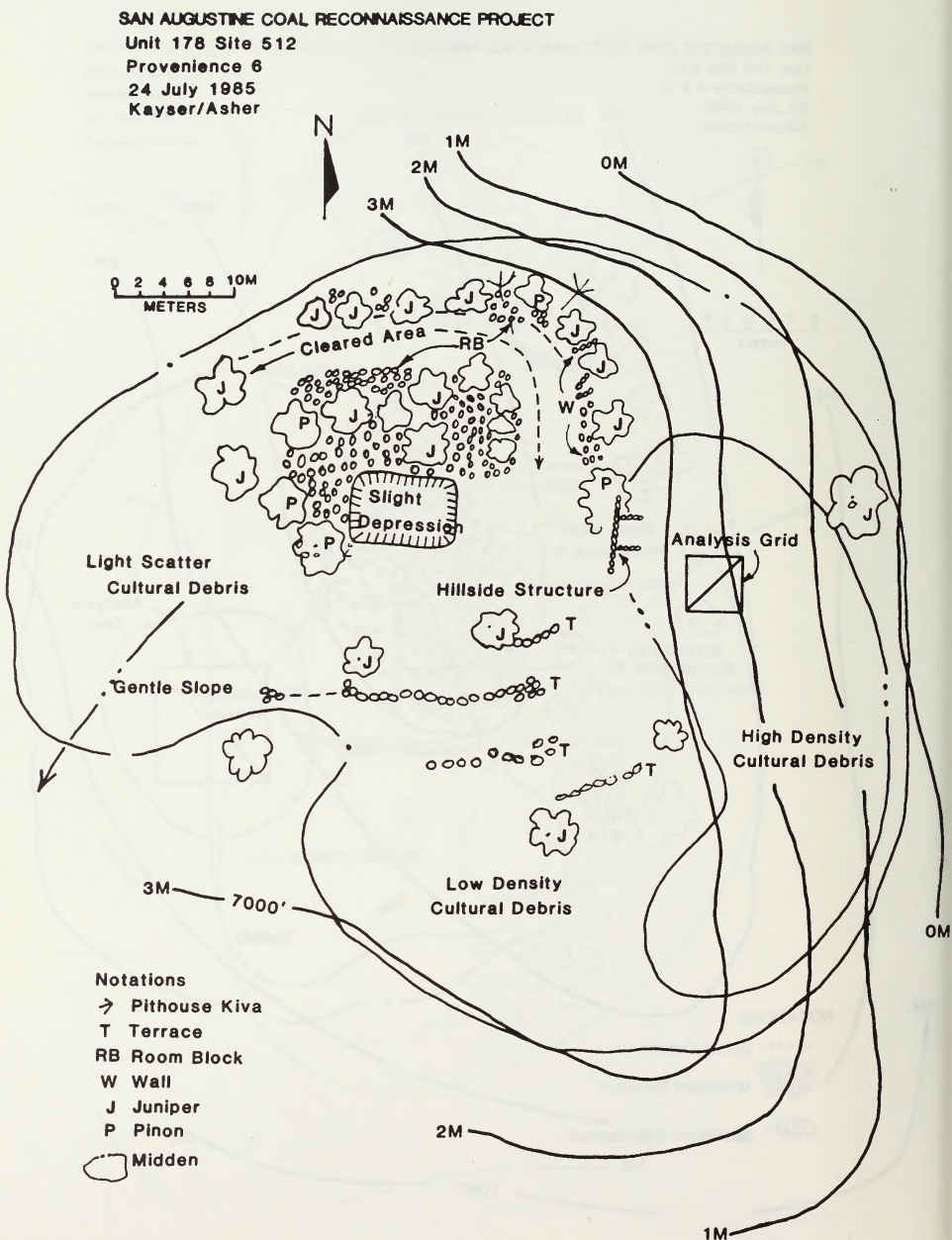

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit 178 - Site 512
29 Oct. 1985
DW Kayser
N
7040'
Provenience 10
Provenience 7
Provenience 9
Outcrop
Sandstone
Tan
7020'
Water Diversion
Provenience 8
LA 46,502
(DCA-83-300)
Provenience 6
Brown Sandstone
Outcrop
Provenience 5
Provenience 4
7000'
Provenience 3
6980'
Notations
Refuse/Trash Areas
Structural Units
Kiva Depressions
Provenience 2
Corral
LA 46,501
(DCA-83-299)
Historic
Provenience 1
0 10 20 30 40M
METERS
(After A.S. Hobbs 85)

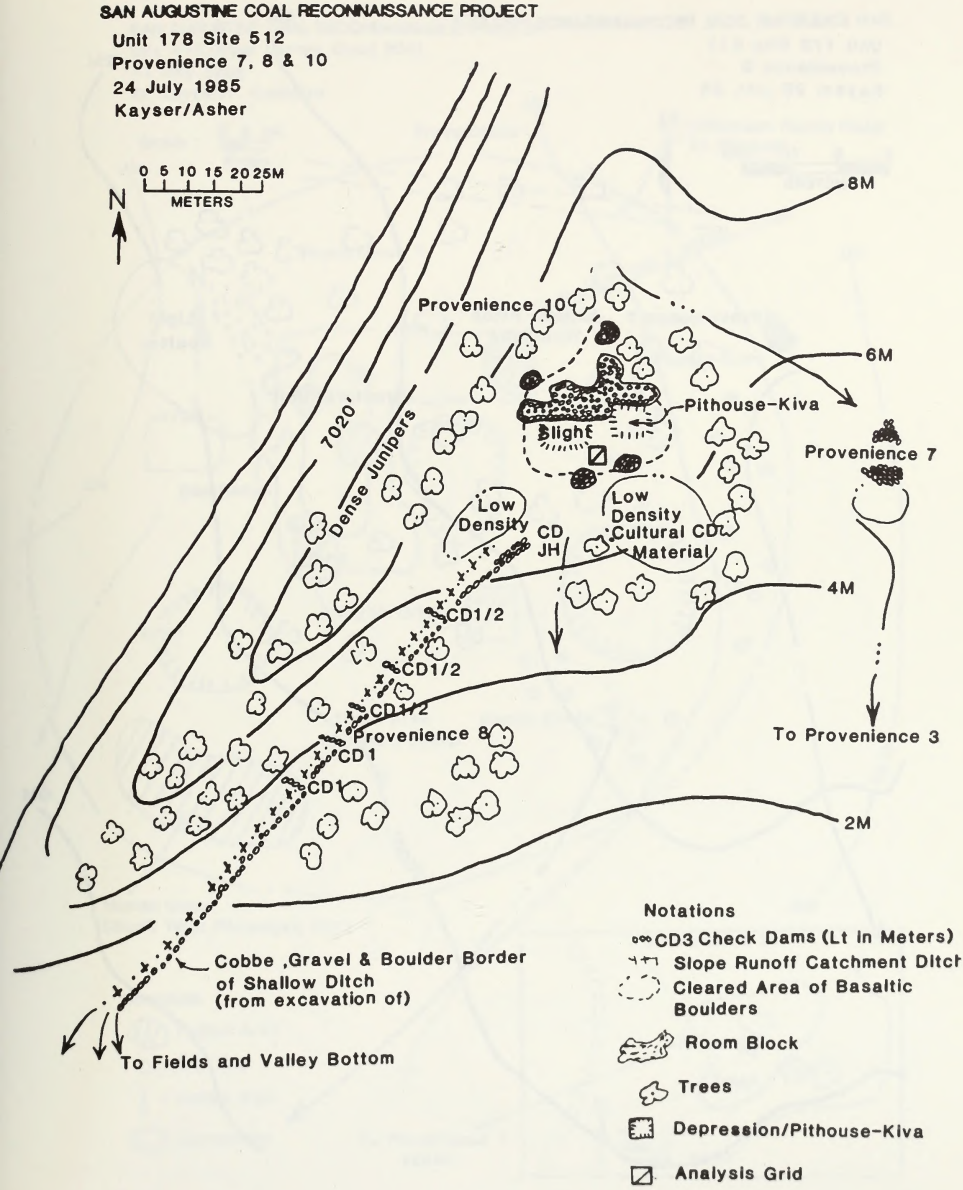

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
N
C 178 - 512
Feature: 1 thru 10
1 CM = 10 M
Contours Lines at 6ft. Intervals (Approx.)
Site Boundary
Drainage
Feature 10
Datum
Feature 7
Feature 9
Basalt Gap
Water Diversion Feature 8
Outcrop
Tan Sandstone
LA 46,502
Brown Sandstone Outcrop
Feature 6
Feature 5
Water Control Feature
Feature 4
7000'
Feature 3
Midden
Historic Trash Feature 2
Post Enclosure
Corral
LA 46,501
Historic Cabin Feature 1
0 10 20 30 40M
Meters

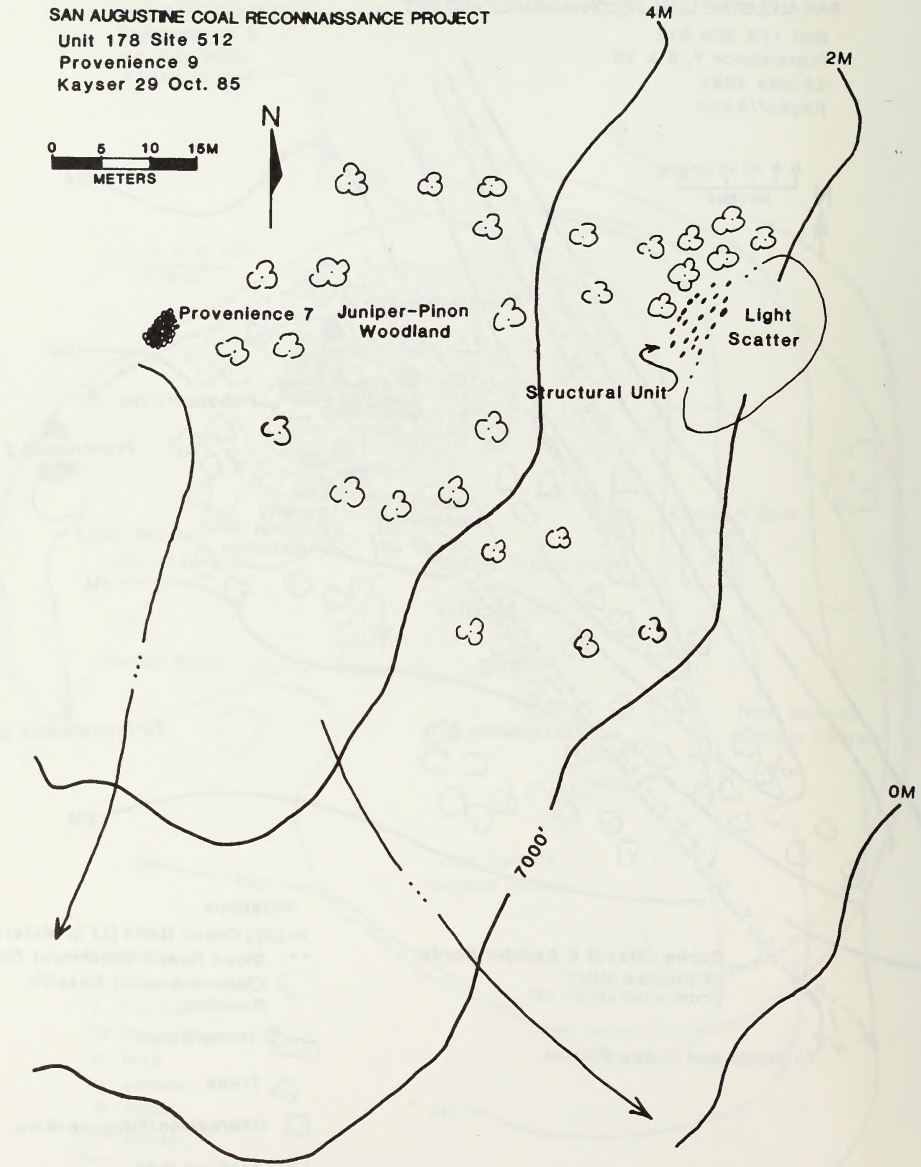
SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit 178 Site 512
Provenience 3
24 July 85
Kayser/Asher



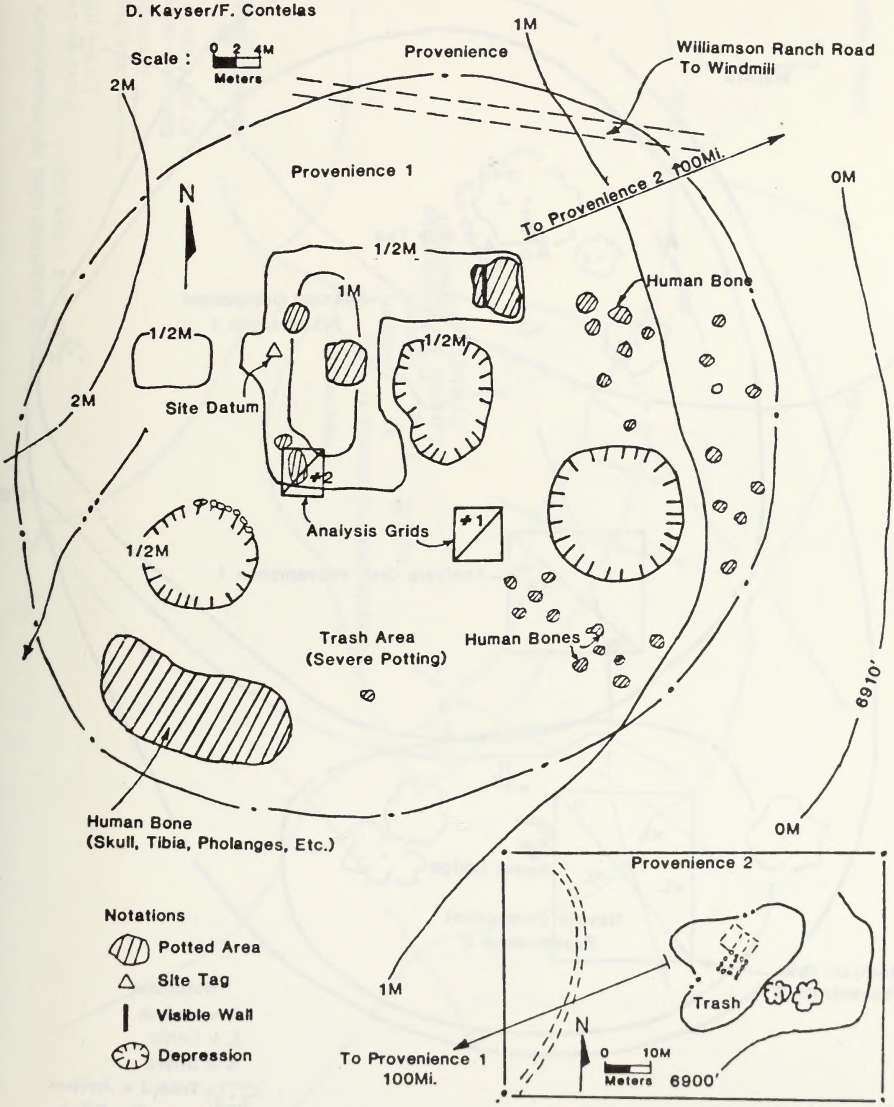

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit 178 Site 512
Provenience 4 & 5
24 July 1985
Kayser/Asher
N
0 1 2 3 4 5
Meters
2M
3M
3M
2M
1M
1M
0M
0M
Probable Kiva
Room Block
Provenience 5
Burnt Bones
(Provenience 4)
Pithouse - Kiva
STR
Analysis
Grid
High Density
Refuse
Low
Density
Refuse
NOTATIONS
Visible Outline
Undefined Structure
Sandstone Cap/Outcrop
7000'


SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit 178 Site 512
Provenience 6
24 July 1985
Kayser/Asher
N
1M
2M
3M
0M
0 2 4 6 8 10M
METERS
Cleared Area
RB
W
Slight
Depression
Analysis Grid
Light Scatter
Cultural Debris
Hillside Structure
Gentle Slope
High Density
Cultural Debris
Low Density
Cultural Debris
7000'
Notations
Pithouse Kiva
T Terrace
RB Room Block
W Wall
J Juniper
P Pinon
Midden

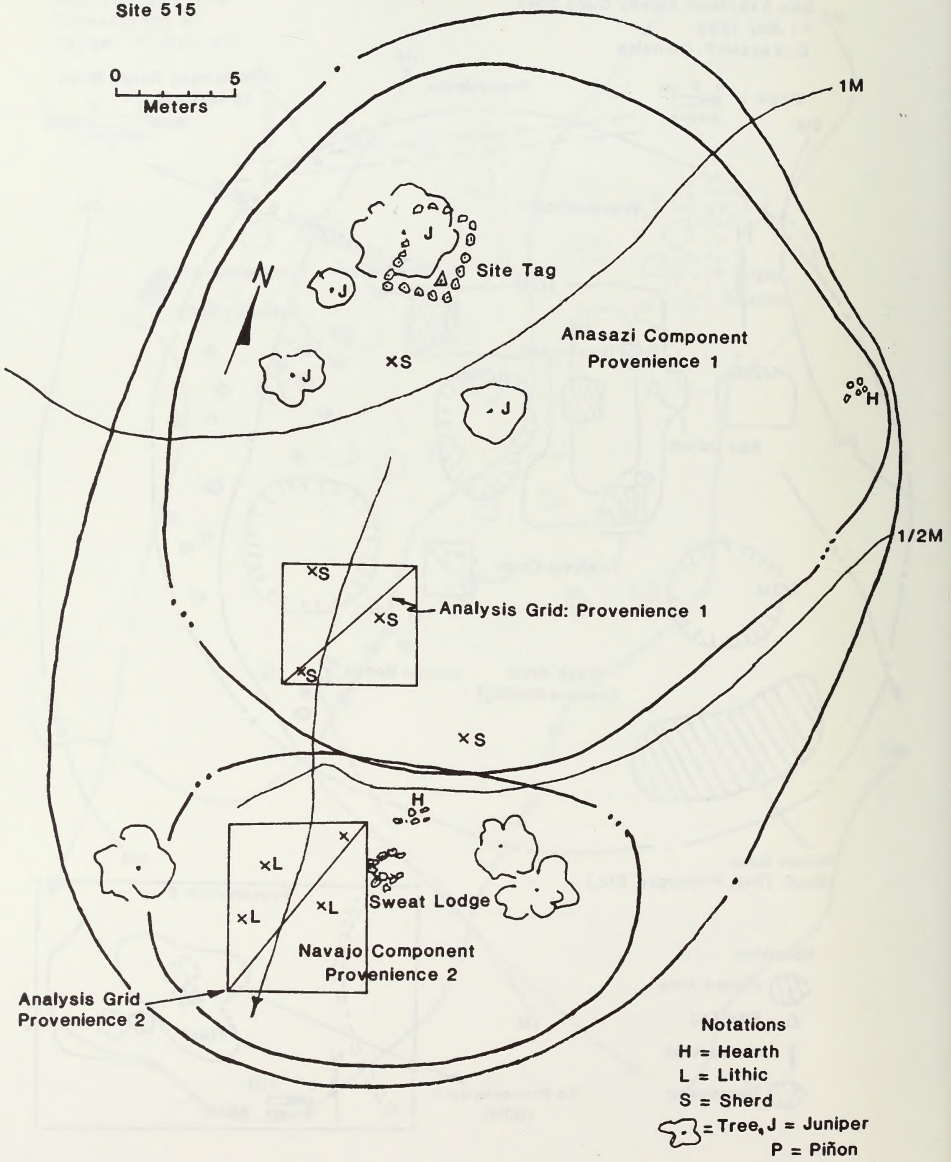

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit 178 Site 512
Provenience 7, 8 & 10
24 July 1985
Kayser/Asher
0 5 10 15 20 25M
METERS
N
8M
Provenience 10
6M
Pithouse-Kiva
Slight
Provenience 7
7020'
Dense Junipers
Low Density
CD JH
Low Density Cultural CD Material
4M
CD1/2
CD1/2
CD1/2
Provenience 8
CD1
CD1
To Provenience 3
2M
Cobble ,Gravel & Boulder Border of Shallow Ditch (from excavation of)
To Fields and Valley Bottom
Notations
CD3 Check Dams (Lt in Meters)
Slope Runoff Catchment Ditch
Cleared Area of Basaltic Boulders
Room Block
Trees
Depression/Pithouse-Kiva
Analysis Grid

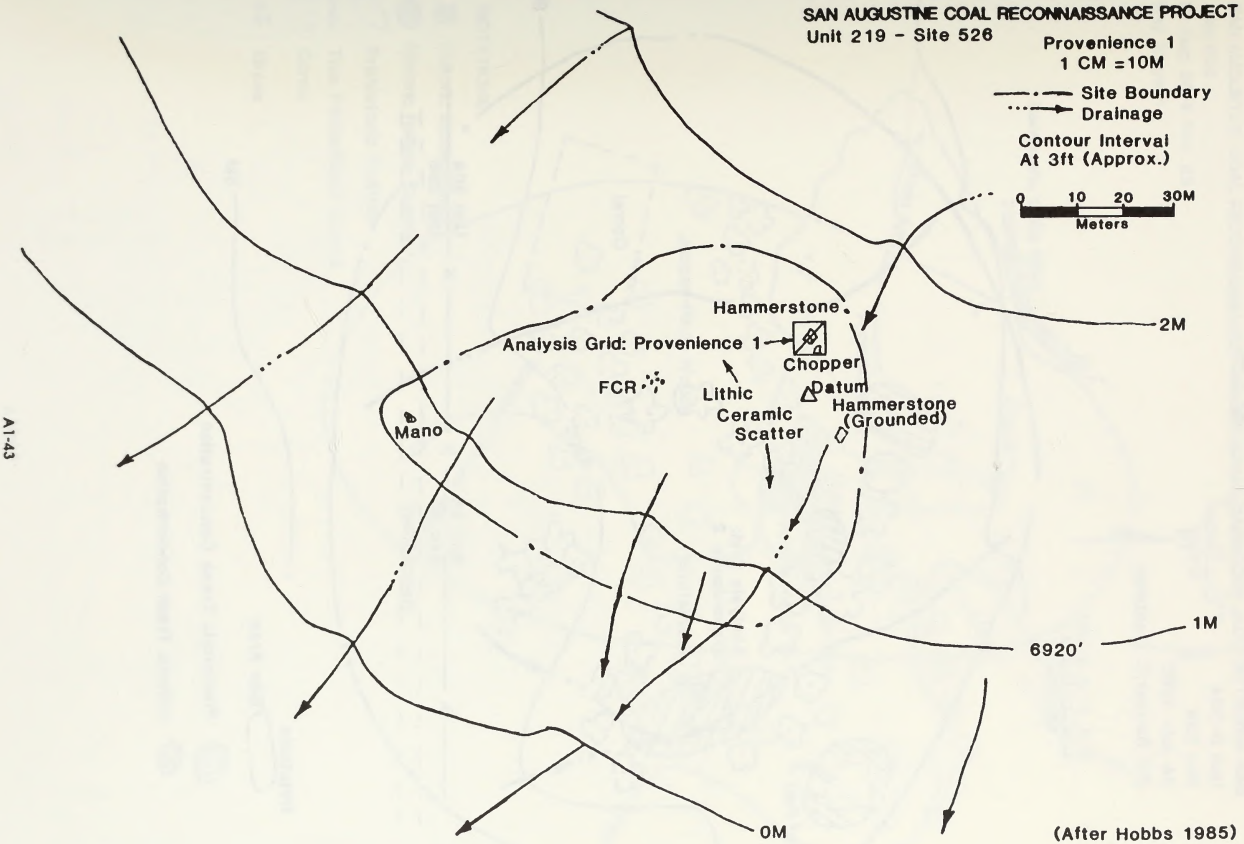

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit 178 Site 512
Provenience 9
Kayser 29 Oct. 85
0 5 10 15M
METERS
N
4M
2M
0M
7000'
Provenience 7
Juniper-Pinon
Woodland
Light
Scatter
Structural Unit

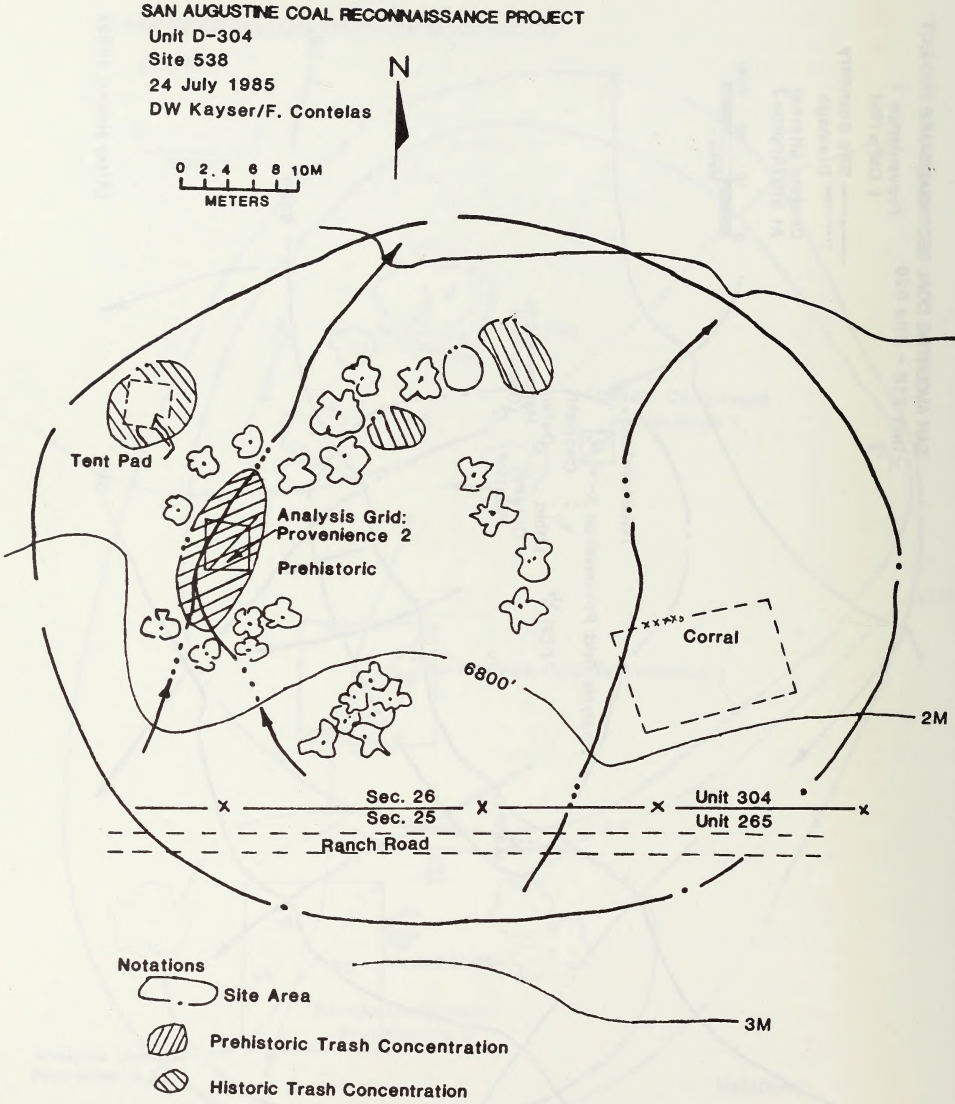
SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Site 513,(Near Survey Quad 204)
11 July 1985
D. Kayser/F. Contelas

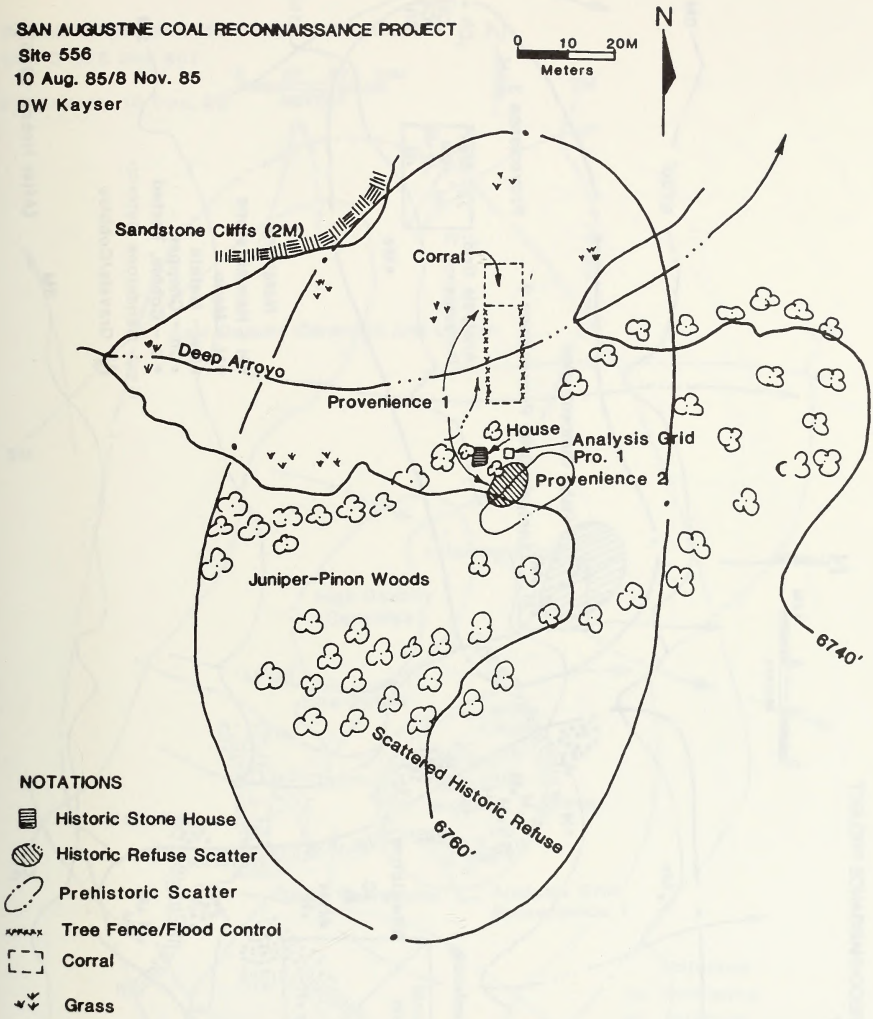


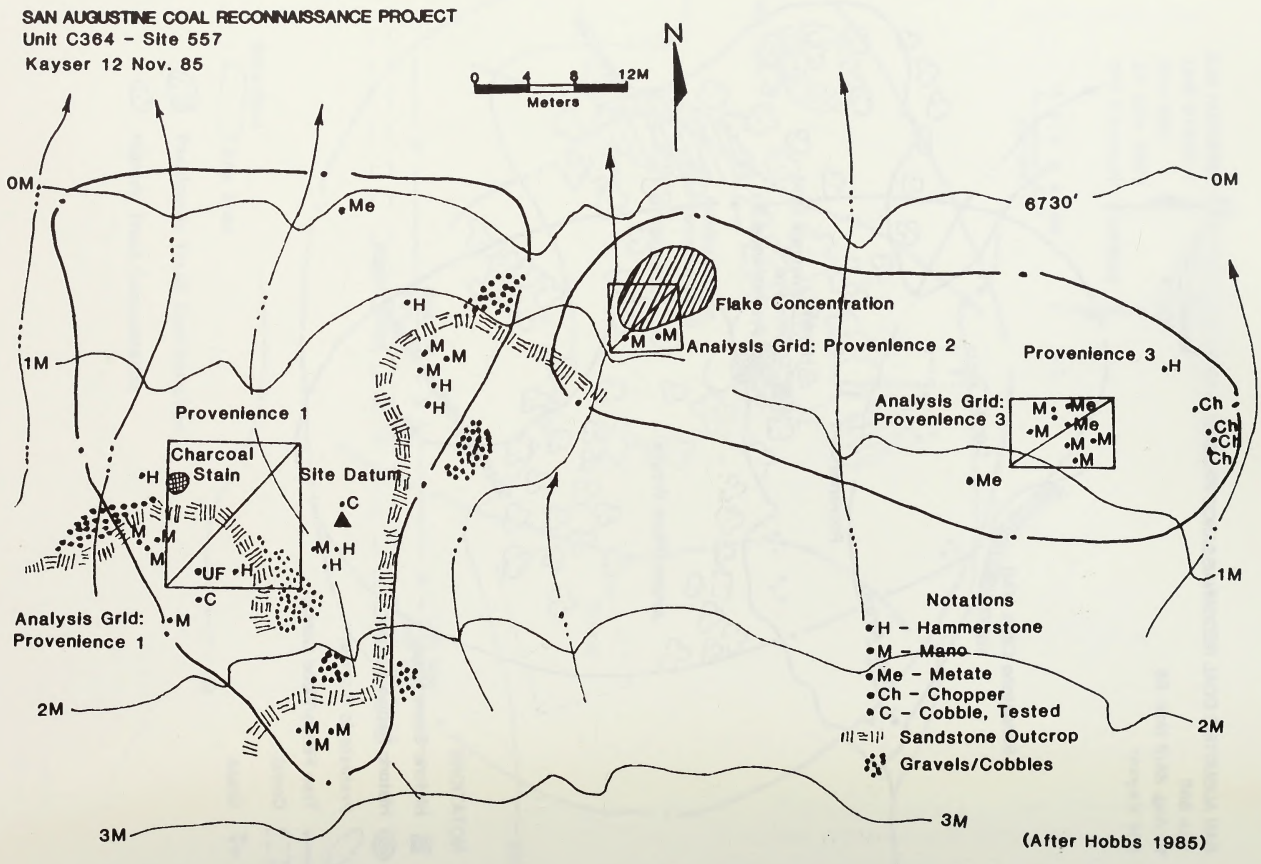
SAN AUGUSTINE COAL RECONNAISSANCE PROJECT

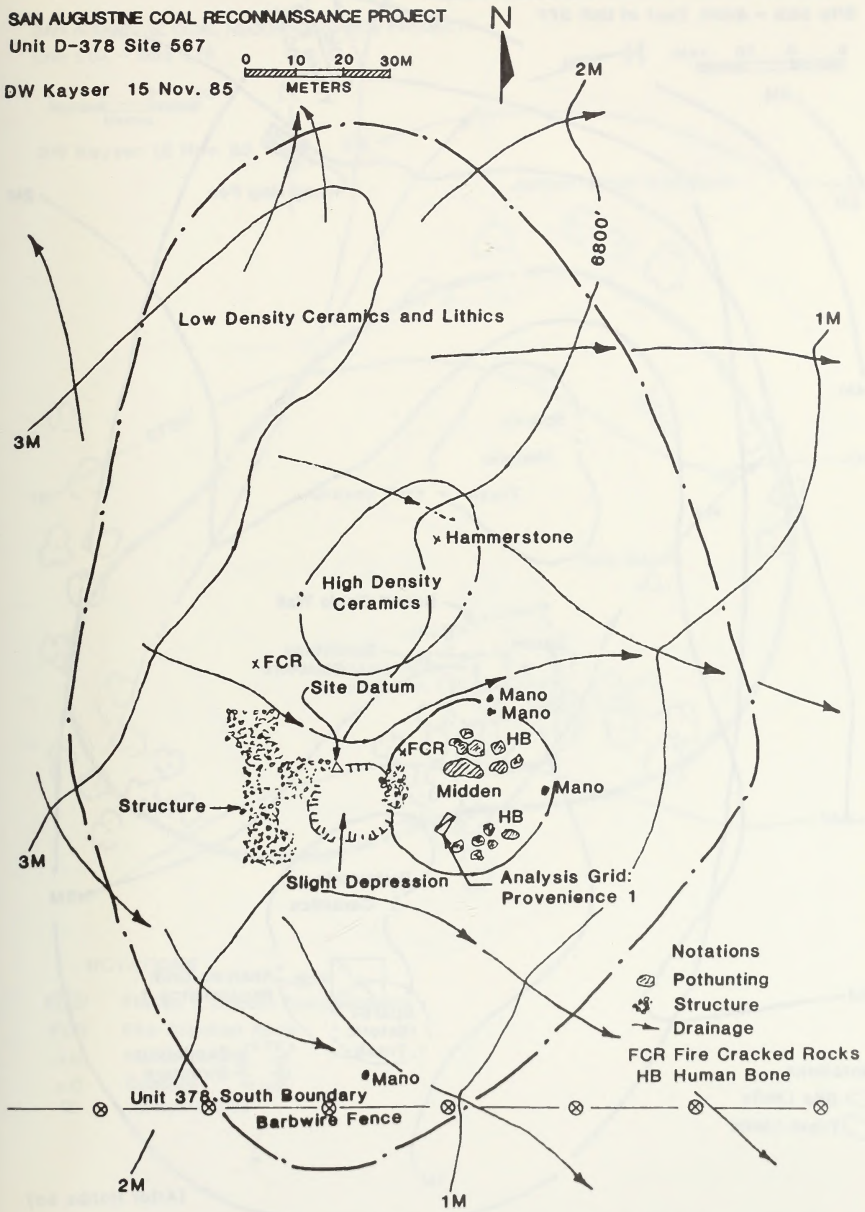


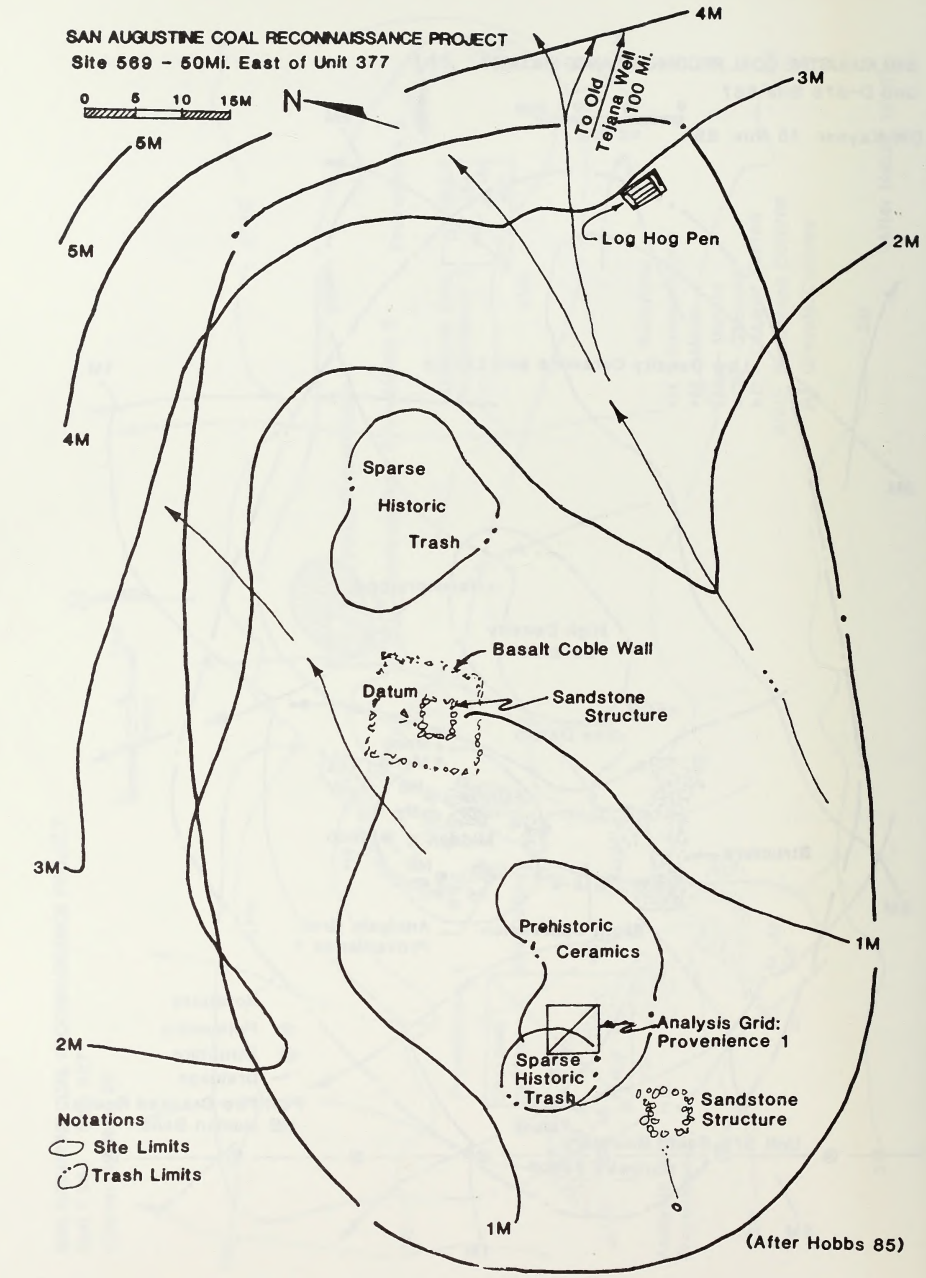

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit 219 - Site 526
Provenience 1
1 CM =10M
Site Boundary
Drainage
Contour Interval
At 3ft (Approx.)
0 10 20 30M
Meters
Hammerstone
Analysis Grid: Provenience 1
Chopper
FCR
Lithic
Ceramic
Scatter
Datum
Hammerstone
(Grounded)
Mano
2M
1M
6920'
0M
(After Hobbs 1985)


SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit D-304
Site 538
24 July 1985
DW Kayser/F. Contelas
N
0 2 4 6 8 10M
METERS
Tent Pad
Analysis Grid:
Provenience 2
Prehistoric
Corral
6800'
2M
Sec. 26
Sec. 25
Unit 304
Unit 265
Ranch Road
Notations
Site Area
3M
Prehistoric Trash Concentration
Historic Trash Concentration


SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Site 556
10 Aug. 85/8 Nov. 85
DW Kayser
0 10 20M
Meters
N
Sandstone Cliffs (2M)
Corral
Deep Arroyo
Provenience 1
House
Analysis Grid
Pro. 1
Provenience 2
Juniper-Pinon Woods
6740'
Scattered Historic Refuse
6760'
NOTATIONS
Historic Stone House
Historic Refuse Scatter
Prehistoric Scatter
Tree Fence/Flood Control
Corral
Grass

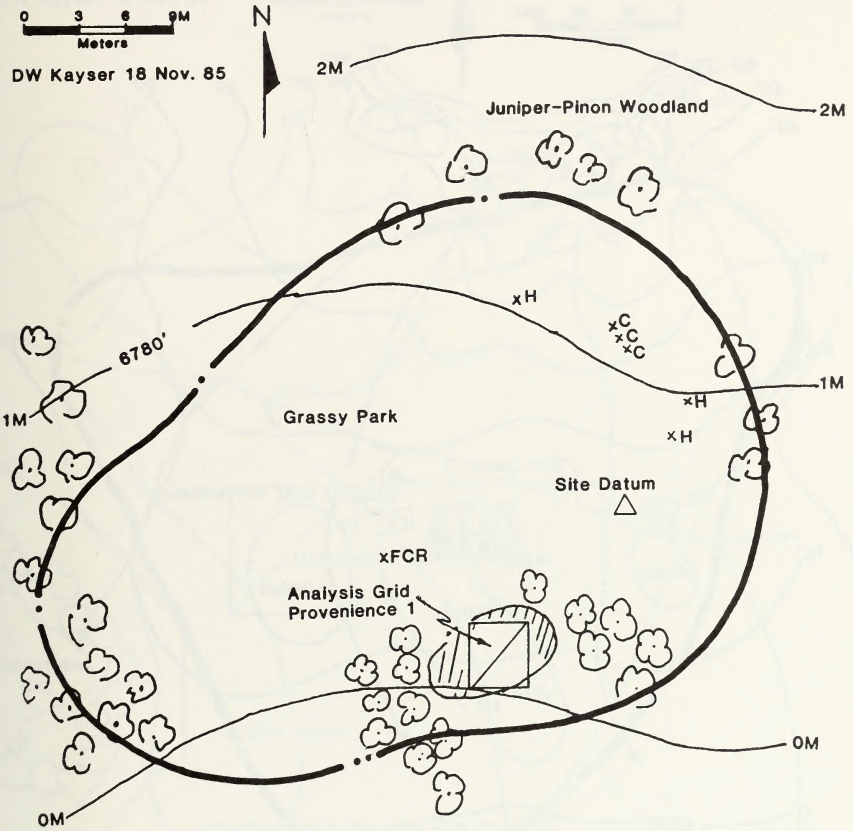

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit C364 - Site 557
Kayser 12 Nov. 85
N
0 4 8 12M
Meters
0M
1M
2M
3M
6730'
Me
H
M
Flake Concentration
Analysis Grid: Provenience 2
Provenience 3
Analysis Grid:
Provenience 3
Ch
Provenience 1
Charcoal
Stain
Site Datum
C
UF
Analysis Grid:
Provenience 1
Notations
H - Hammerstone
M - Mano
Me - Metate
Ch - Chopper
C - Cobble, Tested
Sandstone Outcrop
Gravels/Cobbles
(After Hobbs 1985)


SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit D-378 Site 567
DW Kayser 15 Nov. 85
0 10 20 30M
METERS
N
2M
6800'
Low Density Ceramics and Lithics
1M
3M
Hammerstone
High Density Ceramics
FCR
Site Datum
Mano
Mano
FCR
HB
Midden
Mano
HB
Structure
3M
Slight Depression
Analysis Grid: Provenience 1
Notations
Pothunting
Structure
Drainage
FCR Fire Cracked Rocks
HB Human Bone
Mano
Unit 378 South Boundary
Barbwire Fence
2M
1M


SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Site 569 - 50Mi. East of Unit 377
0 5 10 15M
N
To Old Tejana Well 100 Mi.
Log Hog Pen
4M
3M
5M
5M
2M
4M
Sparse
Historic
Trash
Basalt Coble Wall
Datum
Sandstone Structure
3M
1M
Prehistoric
Ceramics
Analysis Grid:
Provenience 1
2M
Sparse
Historic
Trash
Sandstone
Structure
Notations
Site Limits
Trash Limits
1M
(After Hobbs 85)

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT

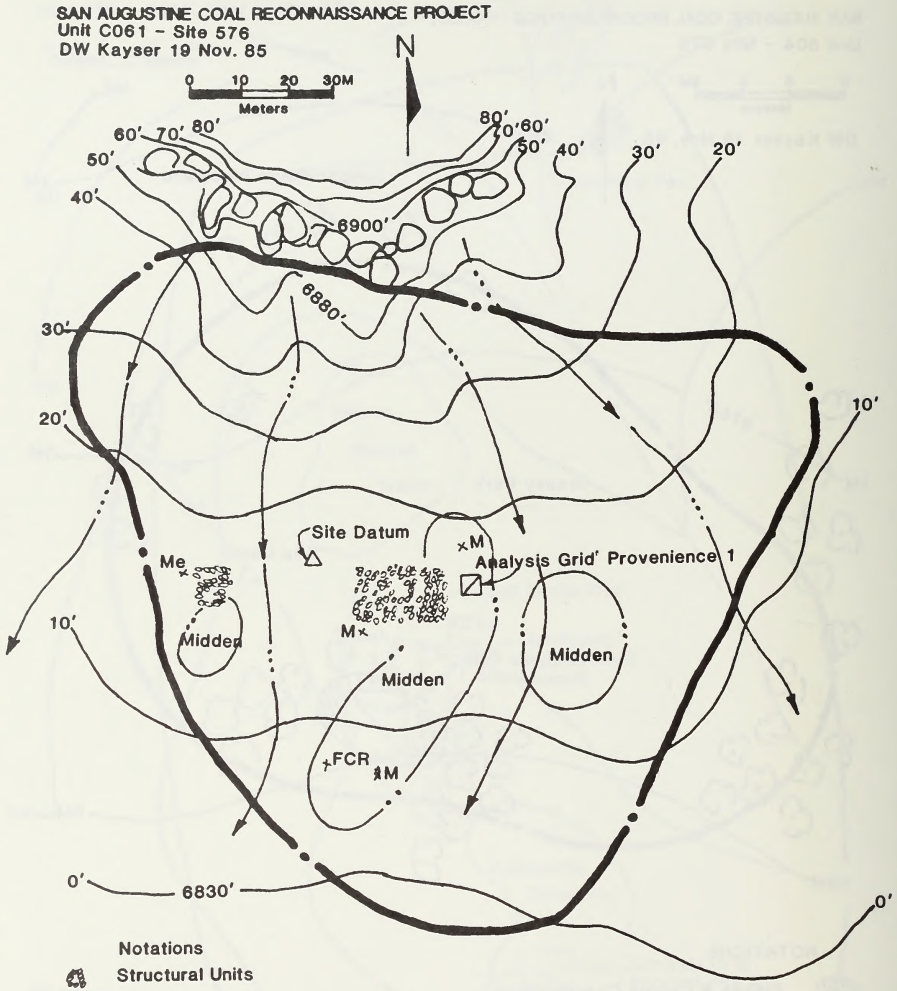
Unit 504 - Site 575



NOTATIONS

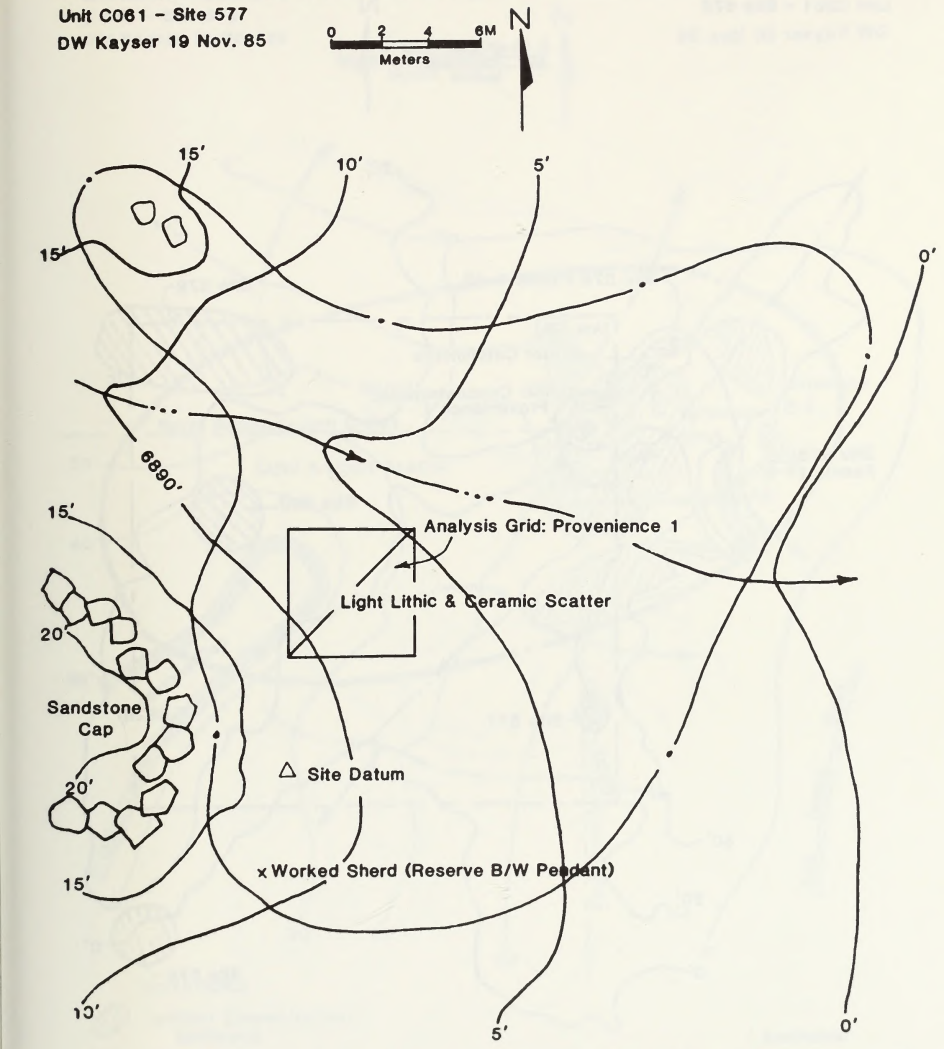
▨	Flakes & Cobble Concentration
FCR	Fire Cracked Rock
xH	Hammerstone
xC	Cobbles
▨	Analysis Grid

(After A.S. Hobbs 85)



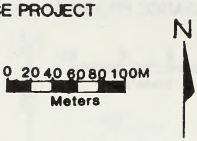
(After AS Hobbs 85)

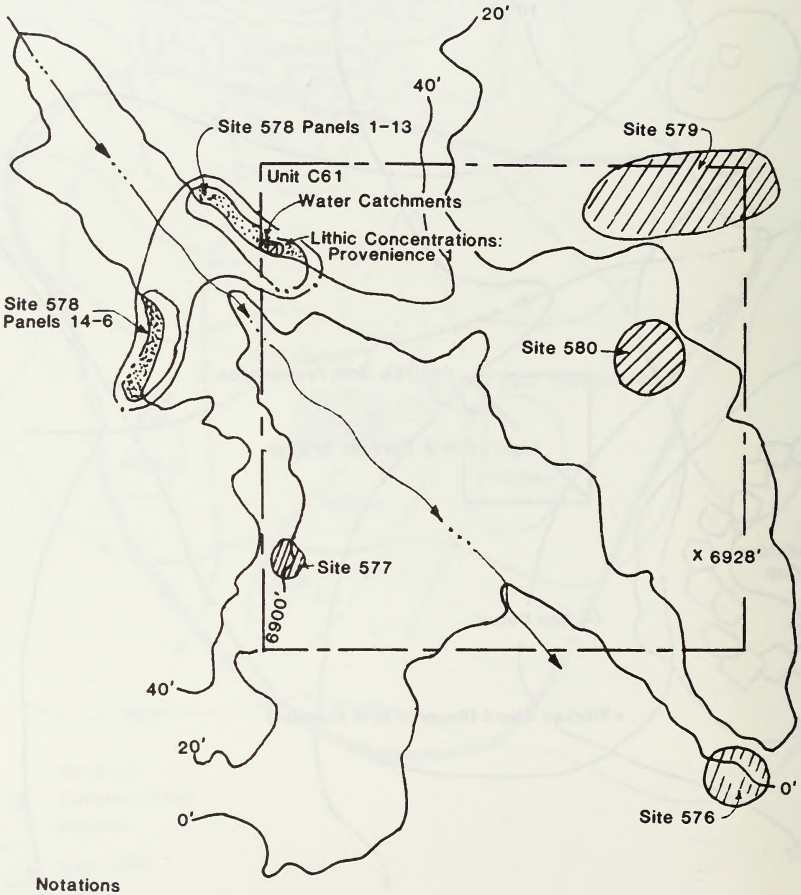
SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit C061 - Site 577
DW Kayser 19 Nov. 85



(After A.S. Hobbs 85)

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Unit C061 - Site 578
DW Kayser 20 Nov. 85

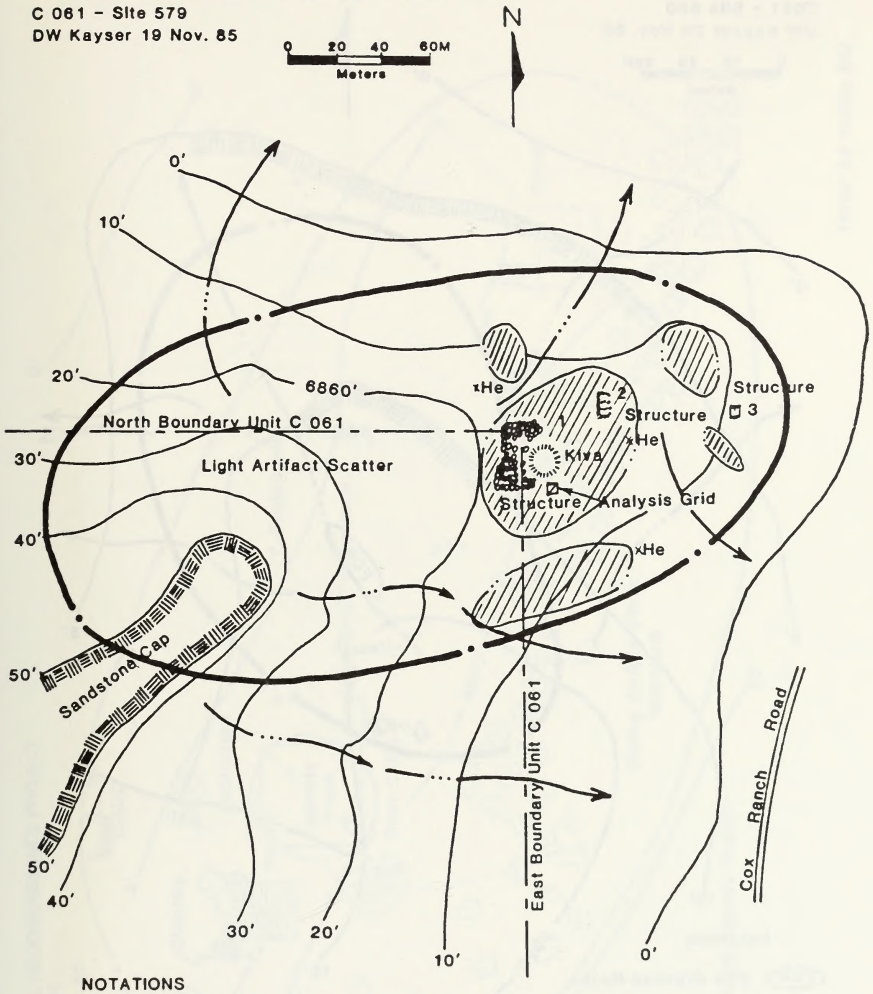




Notations

- Sandstone Cliffs With Rock Art
- Other Resurvey Areas
- Lithic Concentration
- Analysis Grids

SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
C 061 - Site 579
DW Kayser 19 Nov. 85

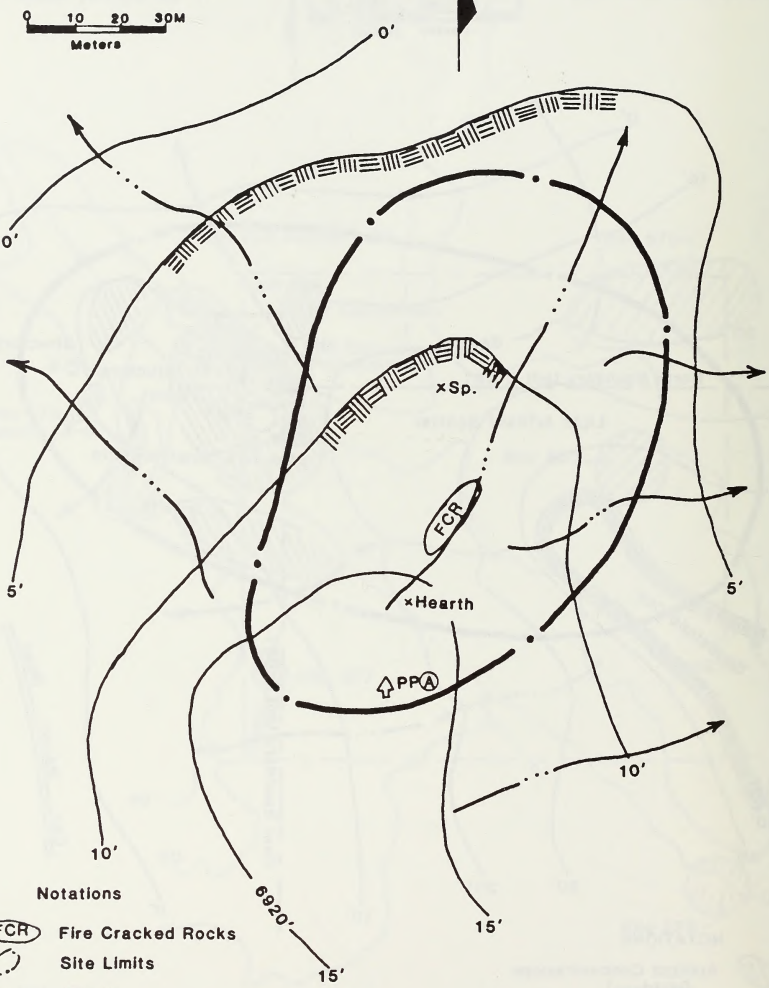


NOTATIONS

- Artifact Concentrations (Middens)
- Structural Units
- Kiva
- Drainage
- xHe Hearth

(After A.S. Hobbs 85)

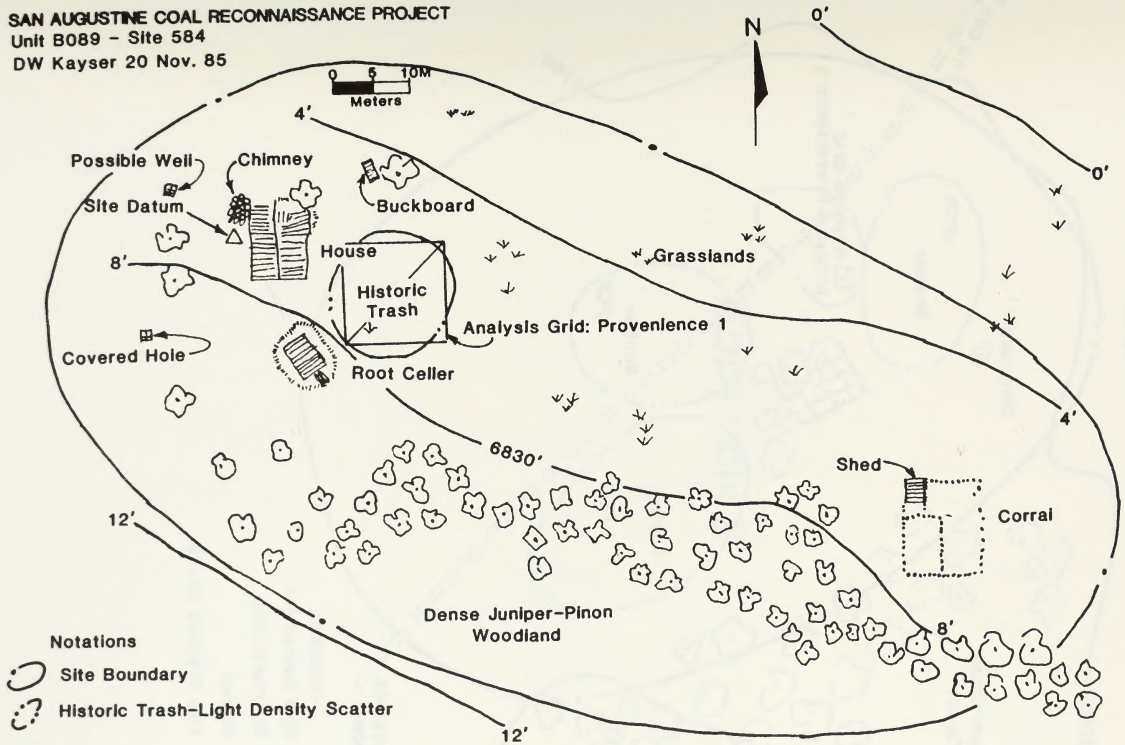
SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
C061 - Site 580
DW Kayser 20 Nov. 85



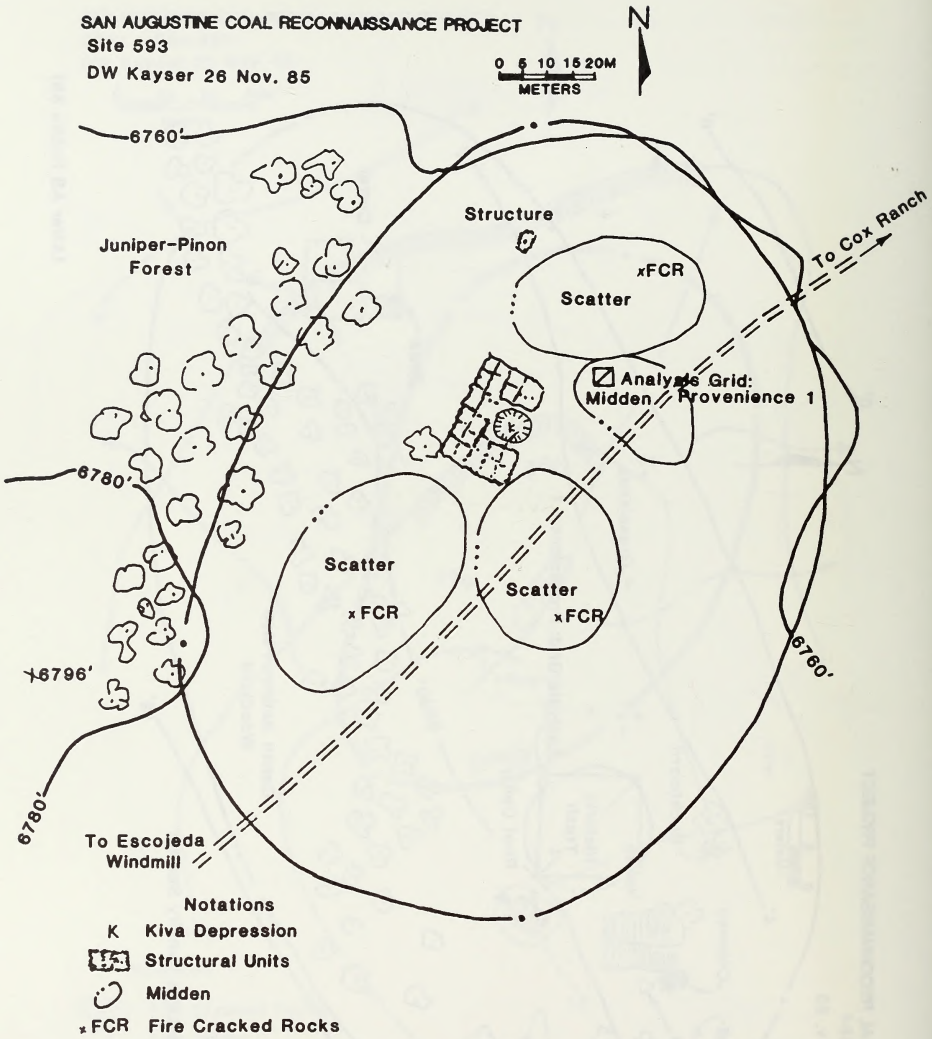
Notations

FCR	Fire Cracked Rocks
	Site Limits
He	Hearth
PP	Projectile Point
	Sandstone Cap
×Sp.	Spokeshave Scraper

(After AS Hobbs 85)



(After AS Hobbs 85)


SAN AUGUSTINE COAL RECONNAISSANCE PROJECT
Site 593
DW Kayser 26 Nov. 85
N
0 5 10 15 20M
METERS
6760'
Juniper-Pinon
Forest
Structure
xFCR
Scatter
To Cox Ranch
Analysis Grid:
Midden Provenience 1
6780'
Scatter
xFCR
Scatter
xFCR
6796'
6760'
6780'
To Escojeda
Windmill
Notations
K Kiva Depression
Structural Units
Midden
xFCR Fire Cracked Rocks

Appendix 2

CONTECH	CONST'N CLASS FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
IDETERMINATE	12	12	5.063	5.063
S-S BLOCK FDN/?	36	48	15.190	20.253
BASALT FND/?	58	106	24.473	44.726
ADOBE/JACAL	15	121	6.329	51.055
COMPOUND FND/?	8	129	3.376	54.430
S-S SIMPLE MSNRY	55	184	23.207	77.637
BASALT SIMPLE MS	28	212	11.814	89.451
SIMPLE (CMPD EL'	7	219	2.954	92.405
CMPD/CORE-VENEER	18	237	7.595	100.000

FREQUENCY / PERCENT / ROW PCT / COL PCT	IDETERMINATE	S-S BLOCK FDN/?	BASALT FND/?	ADOBE/JACAL	COMPOUND FND/?	S-S SIMPLE MSNRY	BASALT SIMPLE MS	SIMPLE (CMPD EL'	CMPD/CORE-VENEER	TOTAL
PREHIST STRS	4	10	12	2	5	26	10	3	6	78
	1.69	4.22	5.06	0.84	2.11	10.97	4.22	1.27	2.53	32.91
	5.13	12.82	15.38	2.56	6.41	33.33	12.82	3.85	7.69	
	33.33	27.78	20.69	13.33	62.50	47.27	35.71	42.86	33.33	
PREHIST STR/FEAT	8	26	46	13	3	29	18	4	12	159
	3.38	10.97	19.41	5.49	1.27	12.24	7.59	1.69	5.06	67.09
	5.03	16.35	28.93	8.18	1.89	18.24	11.32	2.52	7.55	
	66.67	72.22	79.31	86.67	37.50	52.73	64.29	57.14	66.67	
TOTAL	12	36	58	15	8	55	28	7	18	237
	5.06	15.19	24.47	6.33	3.38	23.21	11.81	2.95	7.59	100.00

FREQUENCY / PERCENT / ROW PCT / COL PCT	IDETERMINATE	S-S BLOCK FDN/?	BASALT FND/?	ADOBE/JACAL	COMPOUND FND/?	S-S SIMPLE MSNRY	BASALT SIMPLE MS	SIMPLE (CMPD EL'	CMPD/CORE-VENEER	TOTAL
INDET	2	5	5	3	2	5	0	2	0	.
	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	
	.	.	.	.	.	.	.	.	.	
1 TO 4	10	21	39	9	4	24	16	1	4	128
	4.69	9.86	18.31	4.23	1.88	11.27	7.51	0.47	1.88	60.09
	7.81	16.41	30.47	7.03	3.13	18.75	12.50	0.78	3.13	
	100.00	67.74	73.58	75.00	66.67	48.00	57.14	20.00	22.22	
5 TO 14	0	8	13	2	2	15	7	2	7	56
	0.00	3.76	6.10	0.94	0.94	7.04	3.29	0.94	3.29	26.29
	0.00	14.29	23.21	3.57	3.57	26.79	12.50	3.57	12.50	
	0.00	25.81	24.53	16.67	33.33	30.00	25.00	40.00	38.89	
15 PLUS	0	2	1	1	0	11	5	2	7	29
	0.00	0.94	0.47	0.47	0.00	5.16	2.35	0.94	3.29	13.62
	0.00	6.90	3.45	3.45	0.00	37.93	17.24	6.90	24.14	
	0.00	6.45	1.89	8.33	0.00	22.00	17.86	40.00	38.89	
TOTAL	10	31	53	12	6	50	28	5	18	213
	4.69	14.55	24.88	5.63	2.82	23.47	13.15	2.35	8.45	100.00

Prehistoric Architecture: Area

VARIABLE=AREA

MOMENTS

N	211	SUM WGTS	211
MEAN	269.498	SUM	56864
STD DEV	837.392	VARIANCE	701225
SKEWNESS	8.15164	KURTOSIS	75.8025
USS	162581900	CSS	147257187
CV	310.723	STD MEAN	57.6484
T:MEAN=0	4.67485	PROB>\|T\|	0.0001
SGN RANK	11183	PROB>\|S\|	0.0001
NUM ¬= 0	211		

QUANTILES(DEF=4)

100% MAX	9000	99%	6479.09
75% Q3	200	95%	1050
50% MED	64	90%	624
25% Q1	24	10%	12
0% MIN	1	5%	6
		1%	3.12
RANGE	8999		
Q3-Q1	176		
MODE	100		

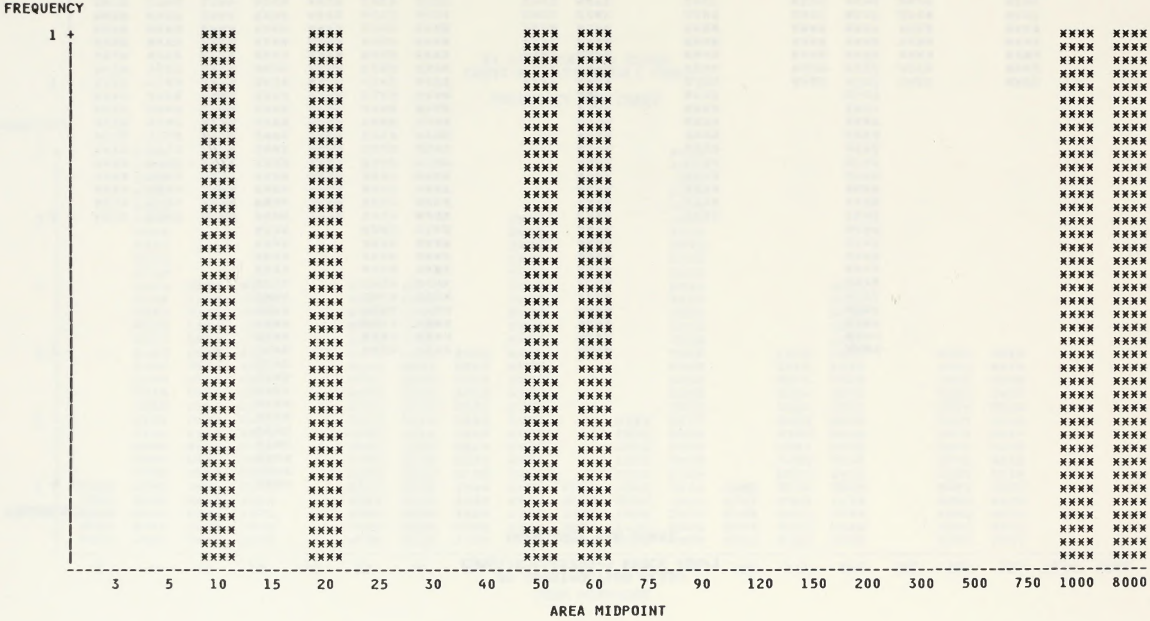
MISSING VALUE	.
COUNT	26
% COUNT/NOBS	10.97

EXTREMES

LOWEST	HIGHEST
1	1500
3	2070
4	2660
6	7000
6	9000

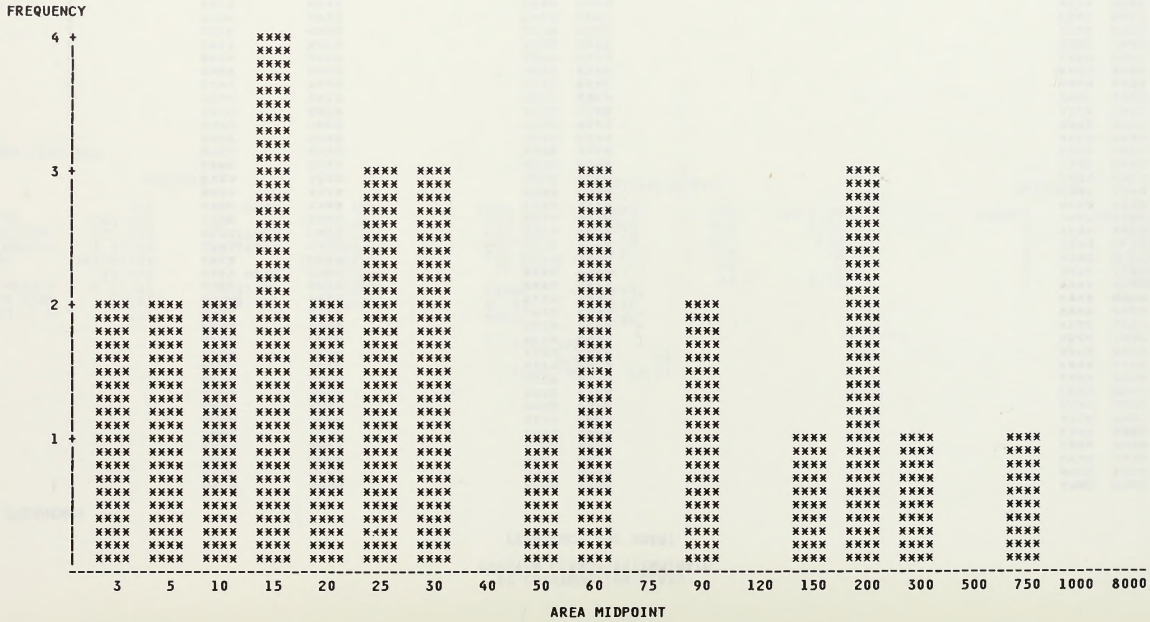
BY CONSTRUCTION CLASS
CONST'N CLASS=IDETERMINATE

FREQUENCY BAR CHART



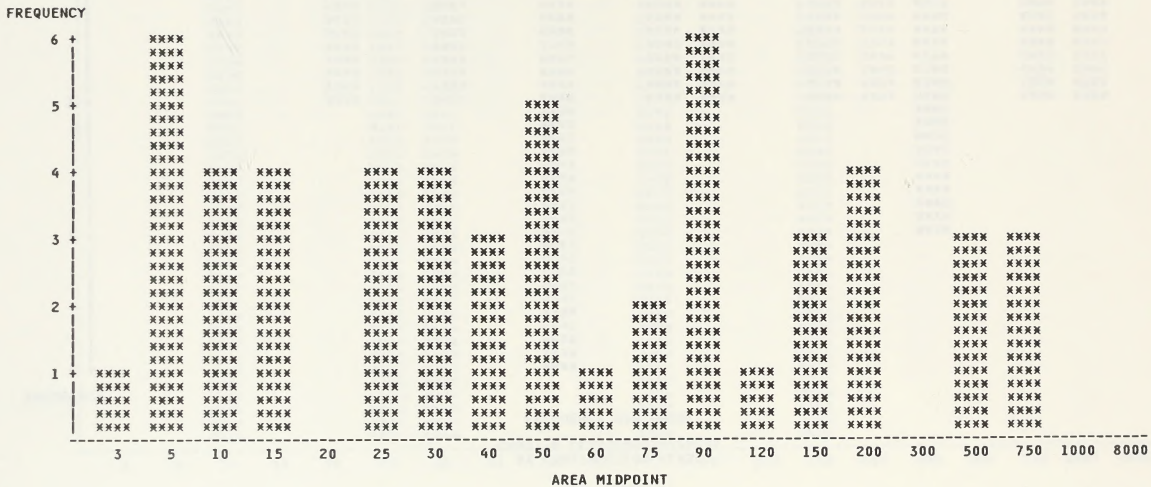
BY CONSTRUCTION CLASS
CONST'N CLASS=S-S BLOCK FDN/↑

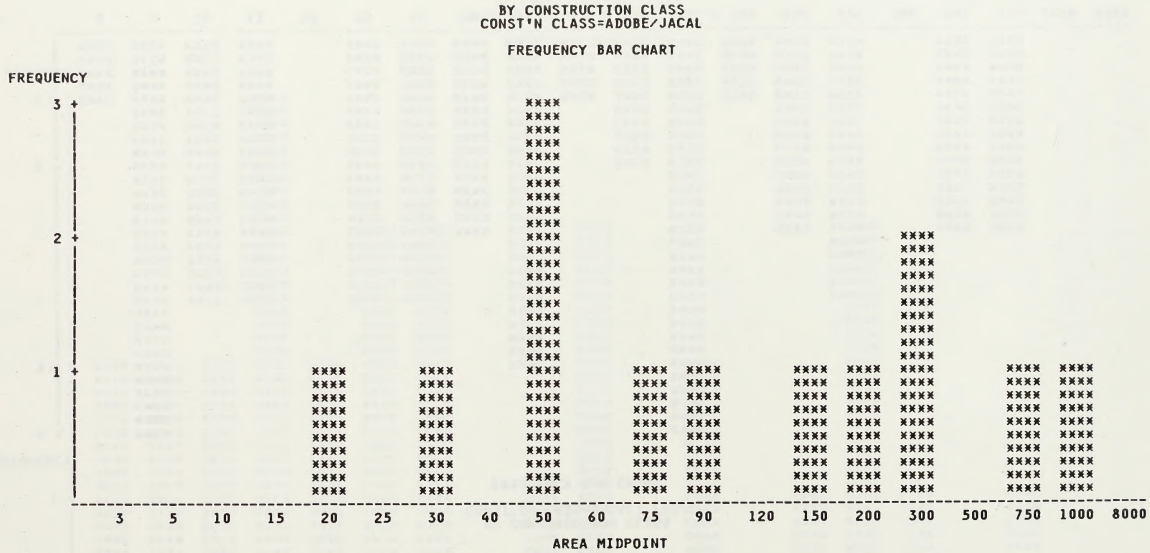
FREQUENCY BAR CHART



BY CONSTRUCTION CLASS
CONST'N CLASS=BASALT FND/?

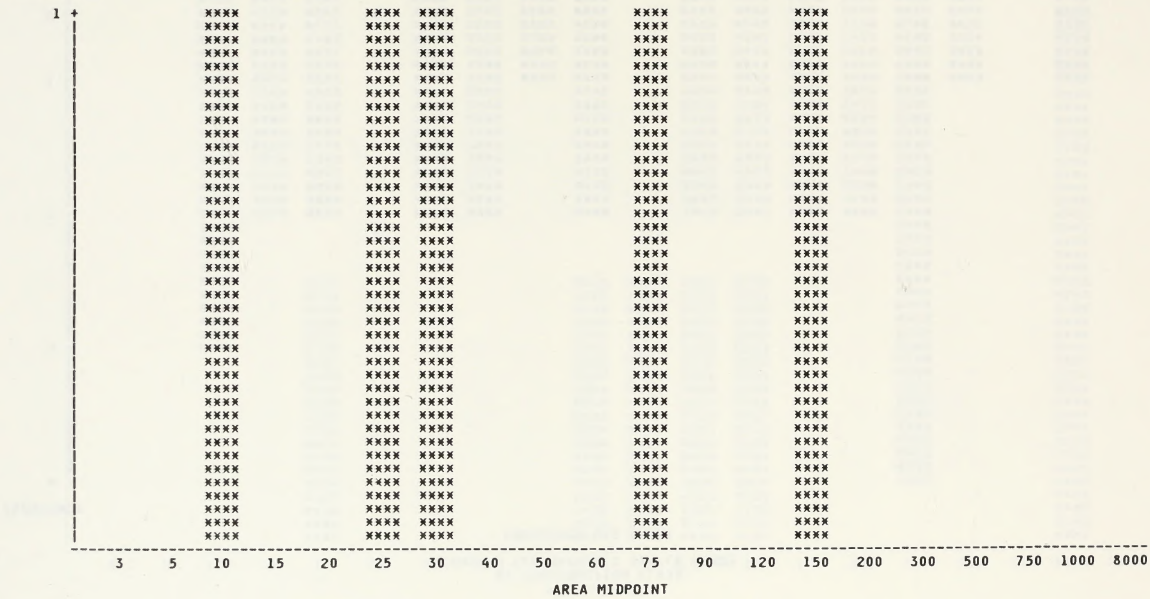
FREQUENCY BAR CHART




BY CONSTRUCTION CLASS
CONST'N CLASS=ADOBE/JACAL
FREQUENCY BAR CHART
FREQUENCY
3
2
1
3 5 10 15 20 25 30 40 50 60 75 90 120 150 200 300 500 750 1000 8000
AREA MIDPOINT

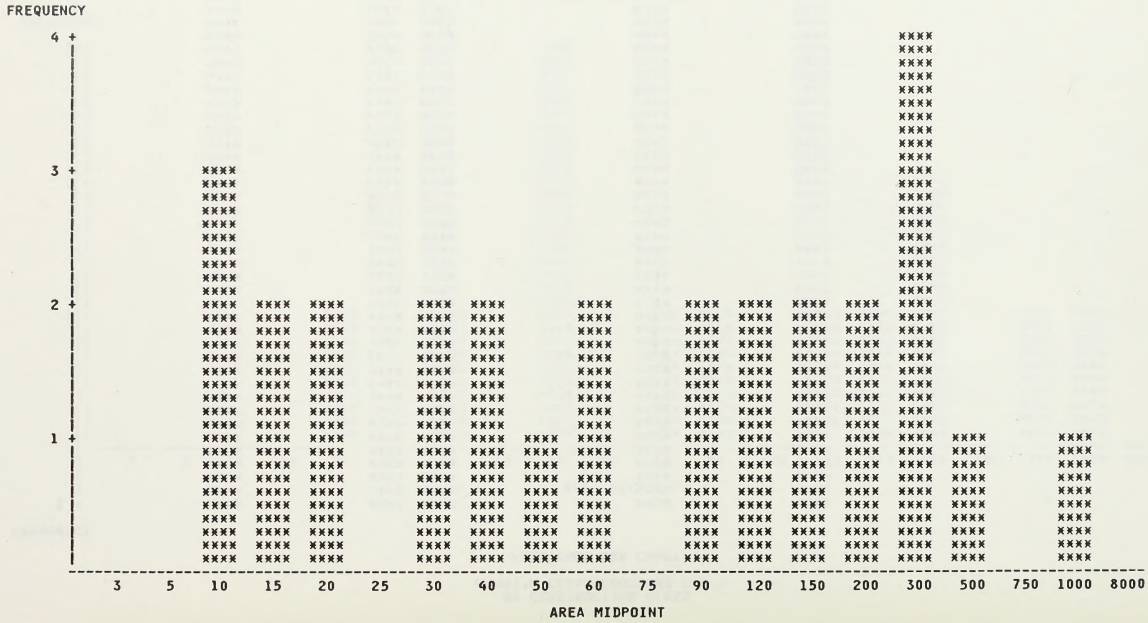
BY CONSTRUCTION CLASS
CONST'N CLASS=COMPOUND FND/?

FREQUENCY BAR CHART



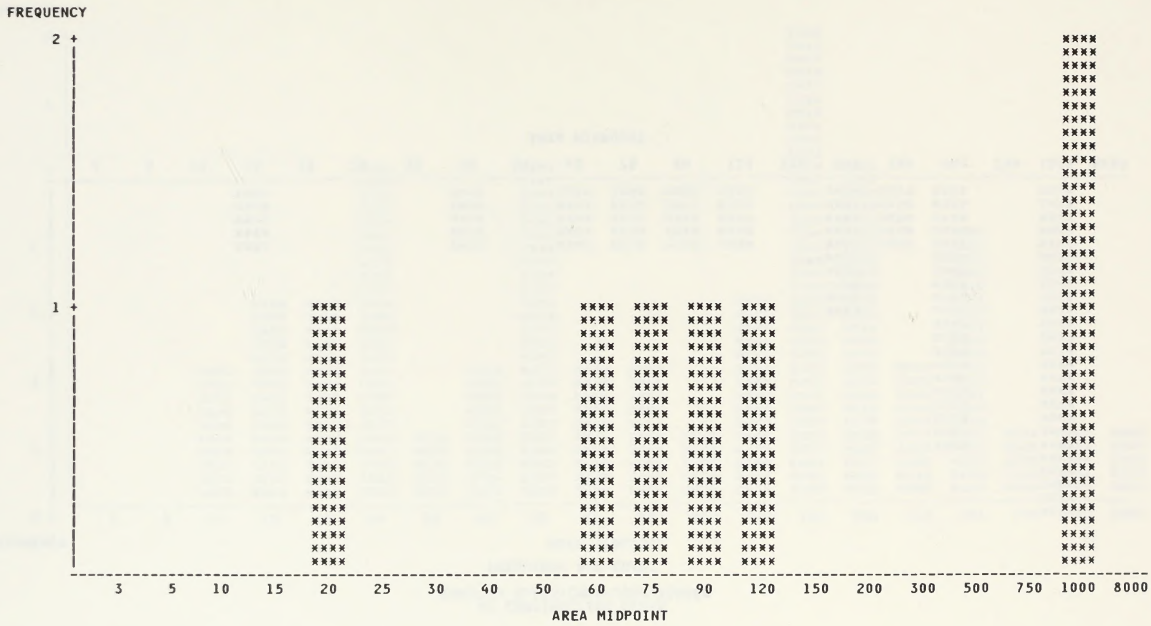
BY CONSTRUCTION CLASS
CONST'N CLASS=BASALT SIMPLE MSNRY

FREQUENCY BAR CHART



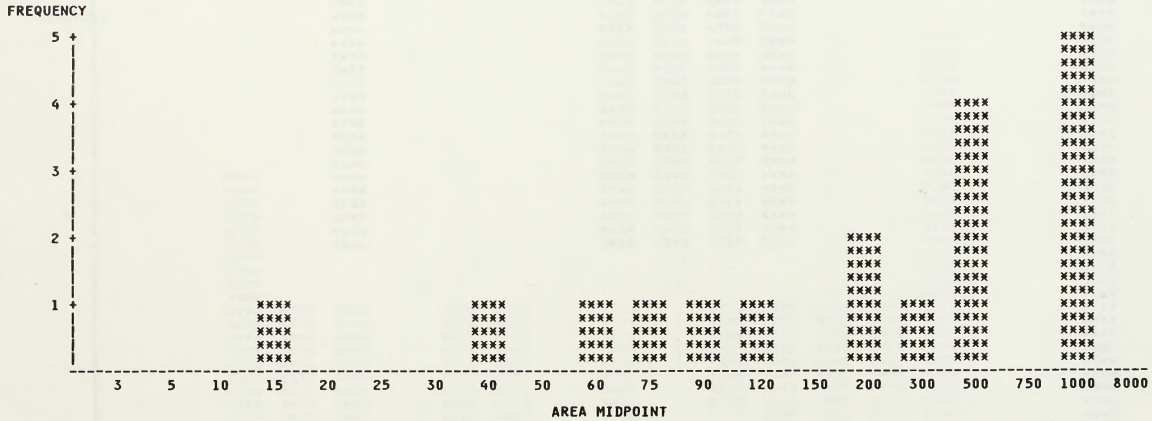
BY CONSTRUCTION CLASS
CONST'N CLASS=SIMPLE (CMPD EL'S)

FREQUENCY BAR CHART



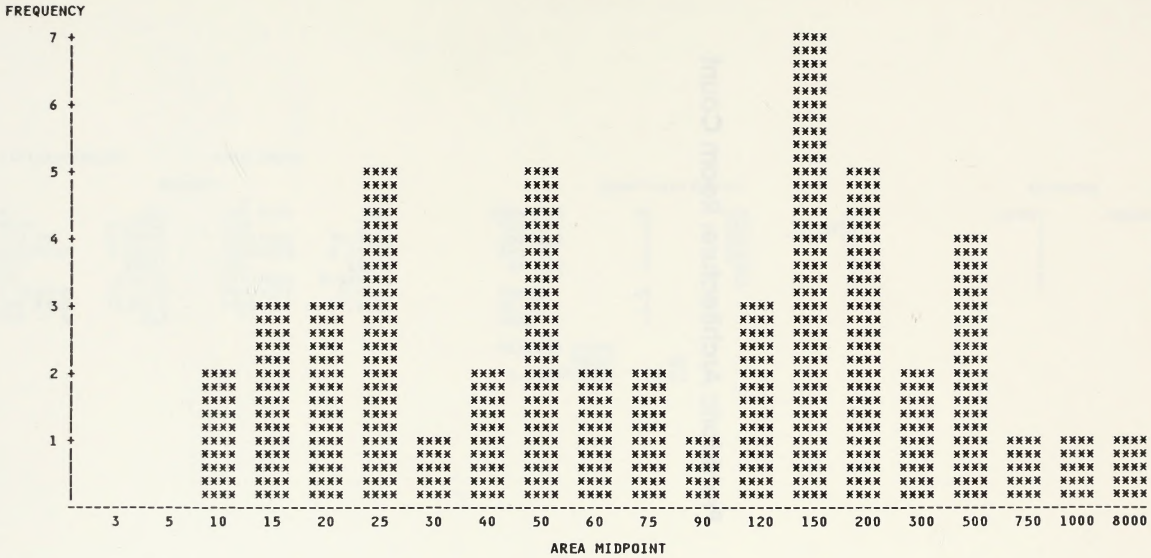
BY CONSTRUCTION CLASS
CONST'N CLASS=CMPD/CORE-VENEER

FREQUENCY BAR CHART



BY CONSTRUCTION CLASS
CONST'N CLASS=S-S SIMPLE MSNRY

FREQUENCY BAR CHART



Prehistoric Architecture: Room Count

VARIABLE=ROOMS ROOM COUNT

MOMENTS

N	213	SUM WGTS	213
MEAN	6.57746	SUM	1401
STD DEV	8.59079	VARIANCE	73.8018
SKEWNESS	2.70059	KURTOSIS	8.03345
USS	24861	CSS	15646
CV	130.61	STD MEAN	0.588632
T:MEAN=0	11.1742	PROB>\|T\|	0.0001
SGN RANK	11395.5	PROB>\|S\|	0.0001
NUM ^= 0	213		

QUANTILES(DEF=4)

100% MAX	50	99%	45
75% Q3	8	95%	26.4999
50% MED	3	90%	15
25% Q1	2	10%	1
0% MIN	1	5%	1
		1%	1
RANGE	49		
Q3-Q1	6		
MODE	2		

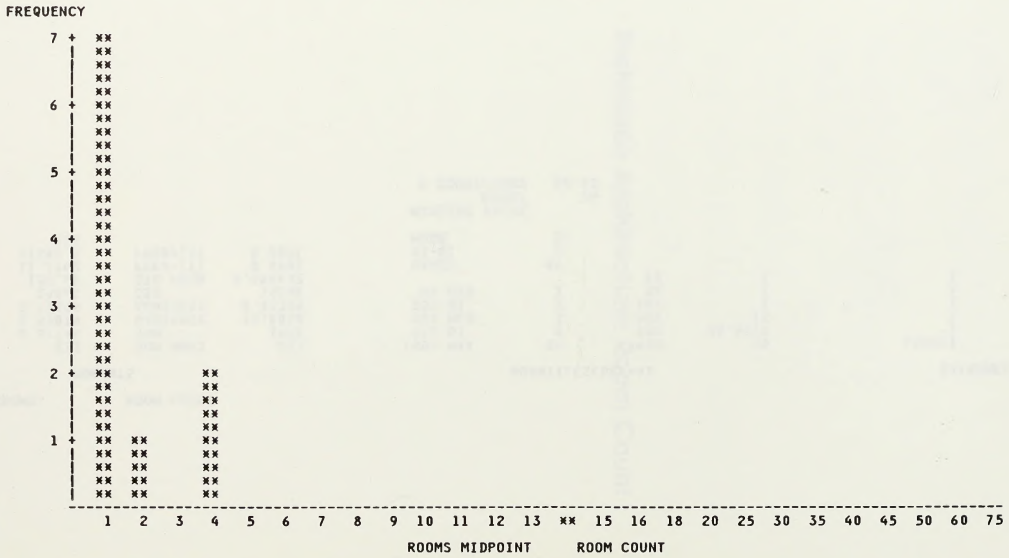
MISSING VALUE .
COUNT 24
% COUNT/NOBS 10.13

EXTREMES

LOWEST	HIGHEST
1	35
1	38
1	45
1	45
1	50

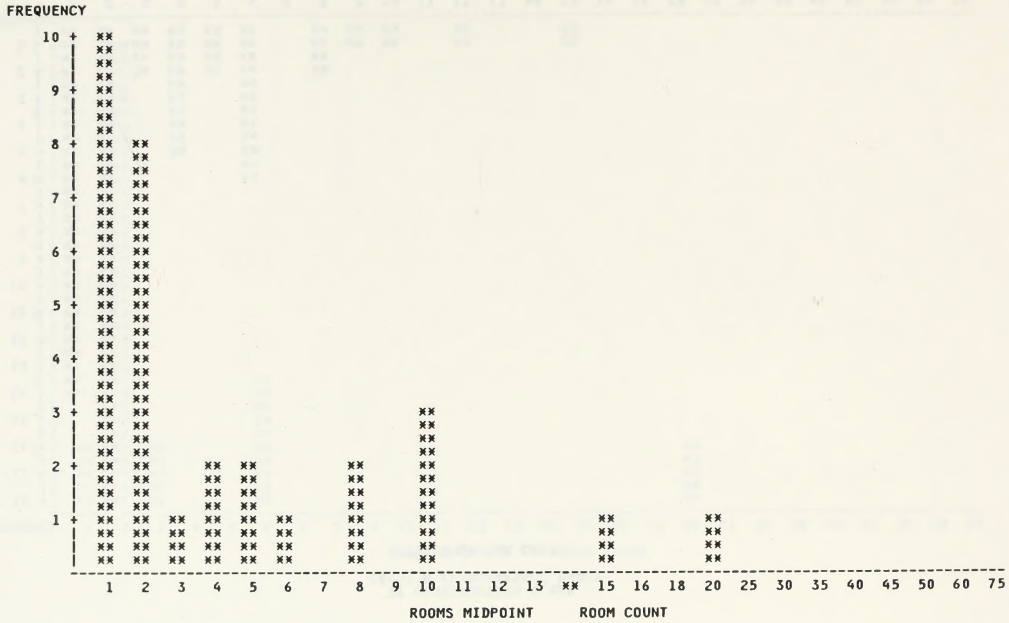
BY CONSTRUCTION CLASS
CONST'N CLASS=IDETERMINATE

FREQUENCY BAR CHART



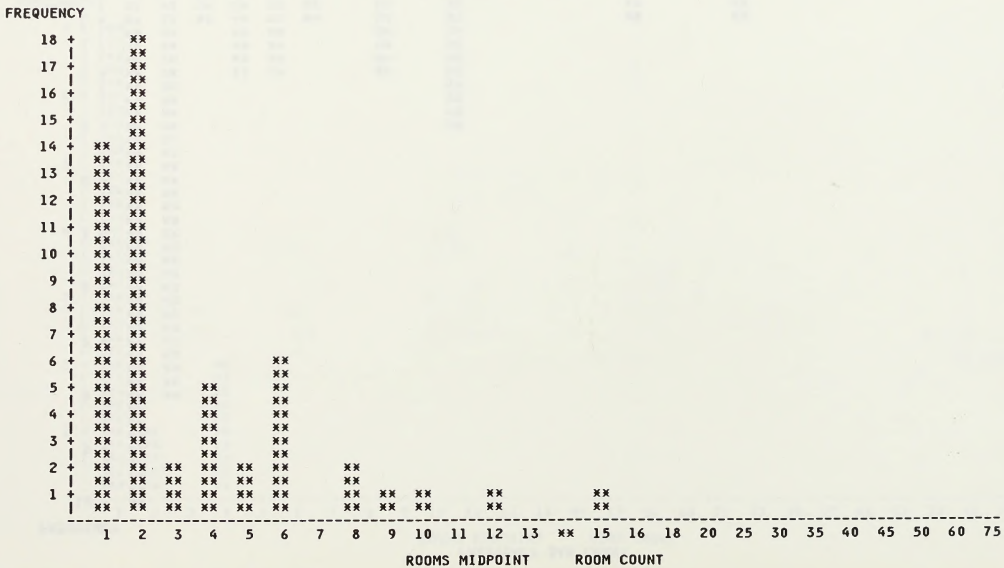
BY CONSTRUCTION CLASS
CONST'N CLASS=S-S BLOCK FDN/?

FREQUENCY BAR CHART



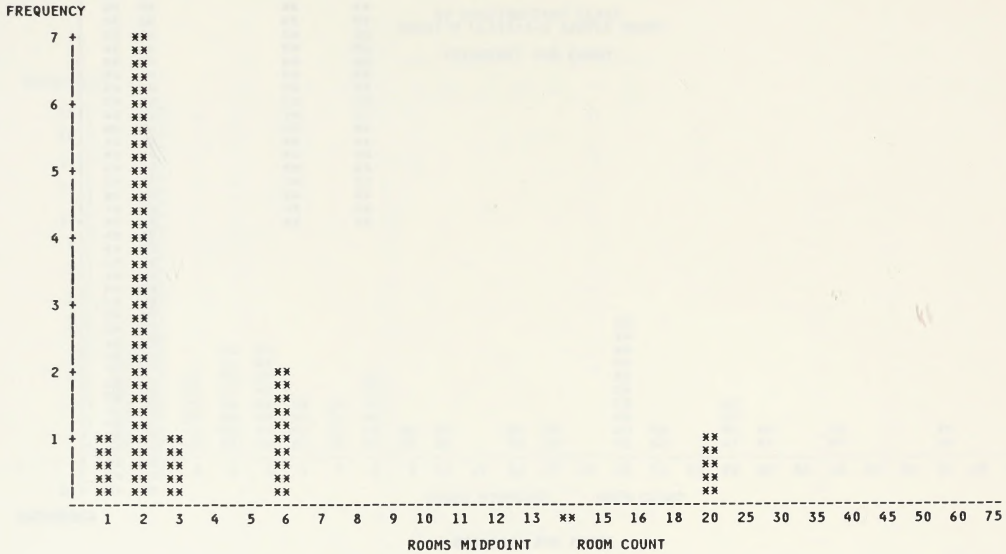
BY CONSTRUCTION CLASS
CONST'N CLASS=BASALT FND/†

FREQUENCY BAR CHART



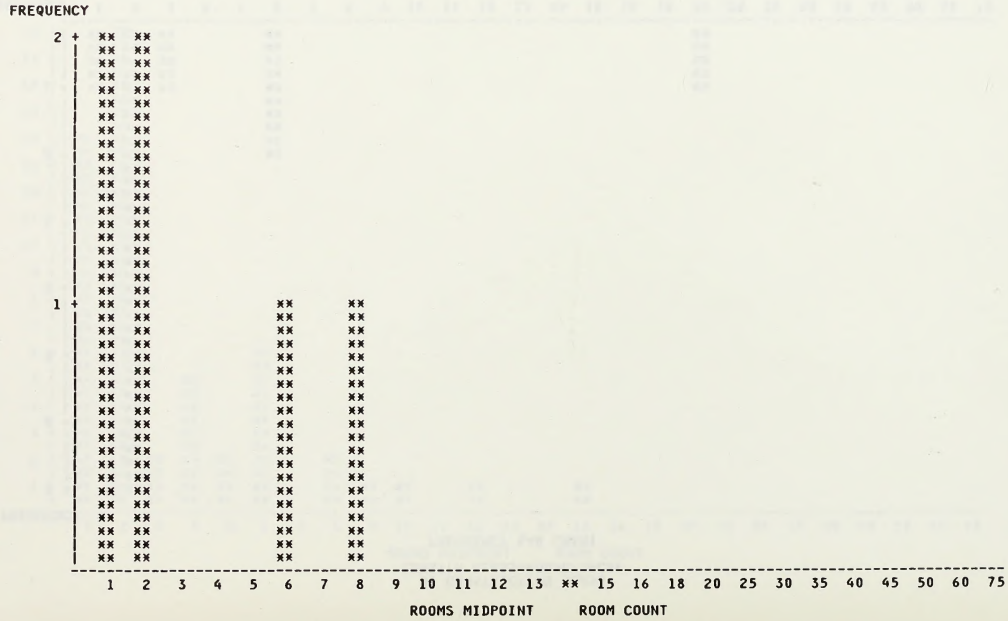
BY CONSTRUCTION CLASS
CONST'N CLASS=ADOBE/JACAL

FREQUENCY BAR CHART



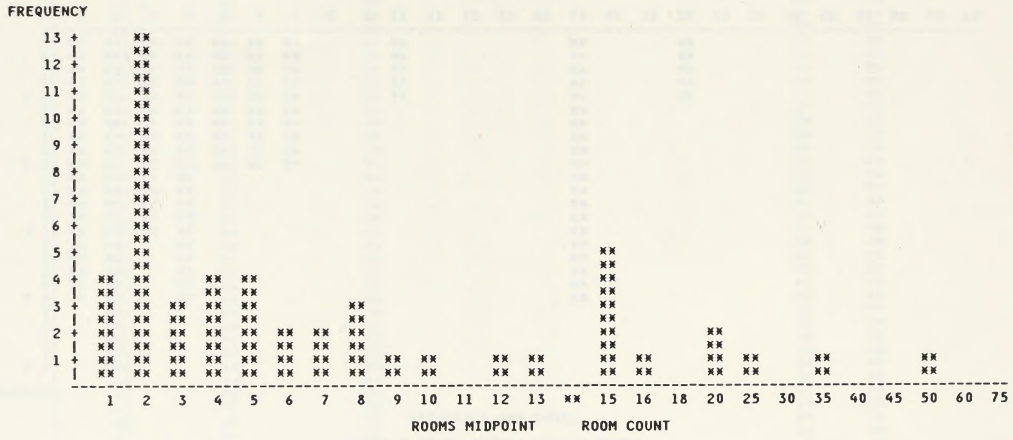
BY CONSTRUCTION CLASS
CONST'N CLASS=COMPOUND FND/?

FREQUENCY BAR CHART



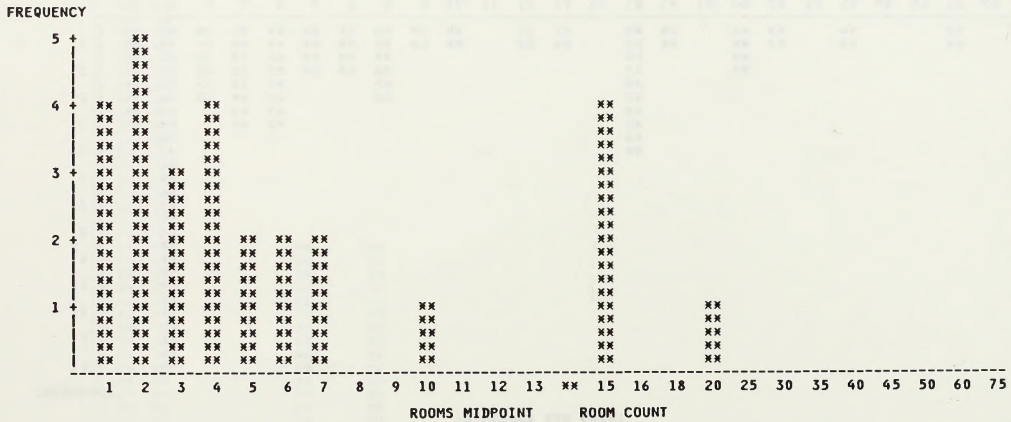
BY CONSTRUCTION CLASS
CONST'N CLASS=S-S SIMPLE MSNRY

FREQUENCY BAR CHART



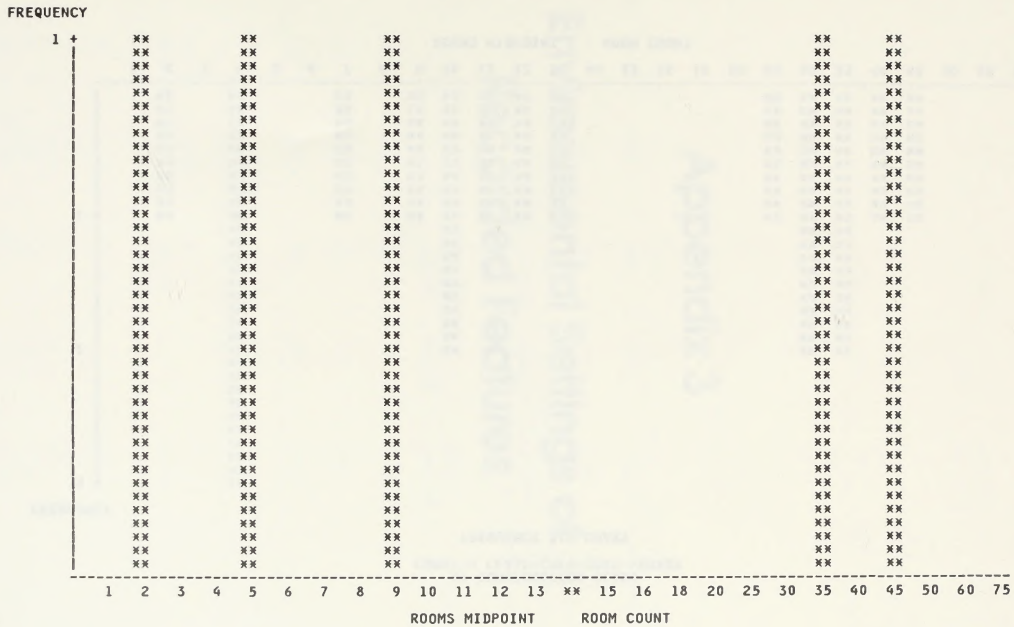
BY CONSTRUCTION CLASS
CONST'N CLASS=BASALT SIMPLE MSNRY

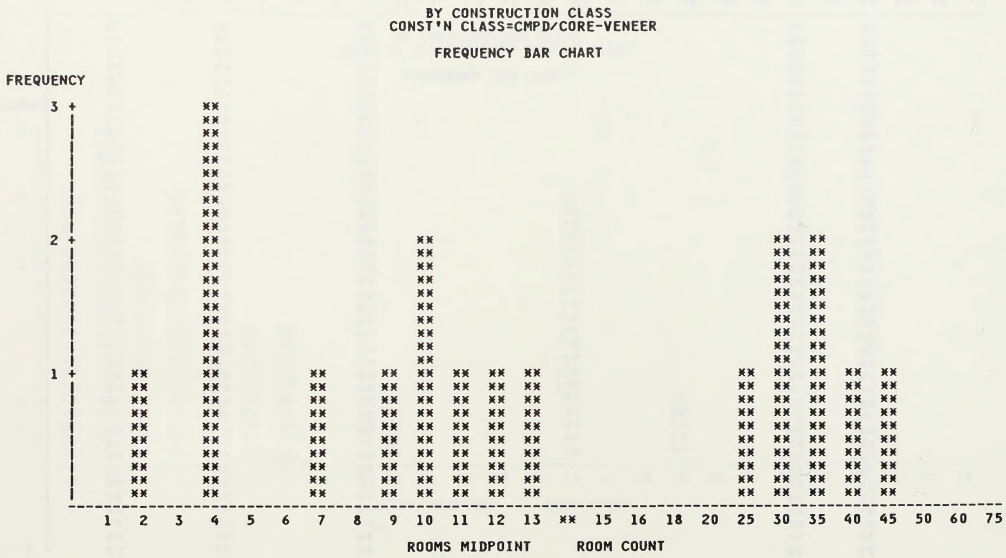
FREQUENCY BAR CHART



BY CONSTRUCTION CLASS
CONST'N CLASS=SIMPLE (CMPD EL'S)

FREQUENCY BAR CHART




BY CONSTRUCTION CLASS
CONST'N CLASS=CMPD/CORE-VENEER
FREQUENCY BAR CHART
FREQUENCY
3
2
1
1 2 3 4 5 6 7 8 9 10 11 12 13 15 16 18 20 25 30 35 40 45 50 60 75
ROOMS MIDPOINT
ROOM COUNT

Appendix 3

Environmental Settings of Recorded Features

Table A3.1: Structural Features by Terrain

Terrain	Total Rooms	Kivas	1 Room Struc.	2-5 Room Struc.	6-14 Room Struc.	15-50 Room Struc.	Total Struc.
Arroyo/Wash	-	-	0	0	0	0	0
Flood/Valley	2	-	0	1	0	0	1
Plain/Flat	2	-	0	1	0	0	1
Canyon Floor	-	-	0	0	0	0	0
Low Rise	93	1	1	2	0	4	7
Ridge	188	4	7	21	7	3	38
Saddle	1	0	1	0	0	0	1
Talus Base	12	-	1	1	1	0	3
Bench	10	-	0	0	1	0	1
Cliff Base	6	-	0	2	0	0	2
Cliff/Scarp	3	-	1	1	0	0	2
Mesa	15	1	0	0	0	1	1
Hill Top	36	1	5	8	2	0	15
Hill Slope	283	9	20	29	18	3	70
Talus	-	-	0	0	0	0	0
Total	**651**	**16**	**36**	**66**	**29**	**11**	**142**

Table A3.2: Structural Features by Environmental Zone

Topographic Zone	Total Rooms	Kivas	1 Room Struc.	2-5 Room Struc.	6-14 Room Struc.	15-50 Room Struc.	Total Struc.
A	-	-	0	0	0	0	0
B	16	-	0	1	1	0	2
C	551	15	31	61	26	9	127
D	84	1	5	4	2	2	13
Total	**651**	**16**	**36**	**66**	**29**	**11**	**142**

Table A3.3: Structural Features by Vegetation

Vegetation	Total Rooms	Kivas	1 Room Struc.	2-5 Room Struc.	6-14 Room Struc.	15-50 Room Struc.	Total Struc.
Grassland	58	1	0	1	2	2	5
Scrubland	21	-	2	2	0	1	5
P-J Parkland	94	2	4	5	3	2	14
P-J Woodland	214	3	12	30	9	2	53
J-P Woodland	247	8	18	27	15	3	63
Marshland	17	2	0	1	0	1	2
Other	-	-	0	0	0	0	0
Total	**651**	**16**	**36**	**66**	**29**	**11**	**142**

Table A3.4: Prehistoric Features by Environmental Zone

Topographic Zone	Hearths	Ash/ FCR	Middens	Pit Struc.	Water Cont Features	Rock Art	Rubble Features	Other Features	Total Features
A	5	6	-	-	-	-	-	0	11
B	1	11	2	-	-	-	5	0	19
C	77	235	168	37	39	15	52	68	659
D	3	23	15	-	-	-	10	7	55
Total	**86**	**275**	**185**	**37**	**39**	**15**	**67**	**75**	**744**

Table A3.5: Prehistoric Features by Vegetation

Vege-tation	Hearths	Ash/ FCR	Middens	Pit Struct	Water Cont Features	Rock Art	Rubble Features	Other Features	Total Features
Grassland	-	13	10	2	-	10	5	6	45
Scrubland	2	4	2	-	-	-	2	4	14
P-J Parkland	7	11	14	1	-	-	3	1	37
P-J Woodland	24	94	40	27	6	2	21	12	226
J-P Woodland	53	148	110	5	33	3	34	52	406
Marshland	-	3	4	2	-	-	2	0	9
Other	-	2	5	-	-	-	-	0	7
Total	**86**	**275**	**185**	**37**	**39**	**15**	**67**	**75**	**744**

Table A3.6: Prehistoric Features by Terrain

Terrain	Hearths	Ash/ FCR	Middens	Pit Struct	Water Cont Features	Rock Art	Rubble Features	Other Features	Total Features
Arroyo/Wash	-	2	-	-	4	-	-	1	7
Flood/Valley	-	-	1	-	-	-	-	0	1
Plain/Flat	2	-	-	-	-	-	1	-	3
Canyon Floor	-	1	-	-	-	-	-	-	1
Low Rise	1	12	12	2	-	-	5	2	32
Ridge	20	80	20	19	-	-	22	10	170
Saddle	1	17	1	-	-	-	1	2	22
Talus Base	3	2	12	-	1	-	-	2	20
Bench	1	5	1	-	-	-	-	0	7
Cliff Base	-	1	2	-	3	6	-	2	14
Cliff/Scarp	-	3	2	-	-	2	-	1	8
Mesa	5	14	2	1	5	0	5	1	28
Hill Top	12	20	26	4	-	-	12	12	75
Hill Slope	41	118	106	11	26	7	21	42	356
Talus	-	-	-	-	-	-	-	0	-
Total	**86**	**275**	**185**	**37**	**39**	**15**	**67**	**75**	**744**

Table A3.7: Mean Site/Prov Densities per 40 Acres by Topographic Zone in the 10 Percent Sample

Topographic Zone	Prehist Features	Prehist Struct	Prehist Str/Feat	Lithic Scatters	Ceramic Scatters	L/C Scatters	Historic Only	Historic Struct	All Types
A	7.00	-	-	1.00	-	3.00	-	-	4.33
B	5.00	1.00	1.00	1.00	-	2.00	-	-	5.00
C	3.36	2.67	3.06	2.00	1.00	1.69	1.00	1.20	5.28
D	1.50	1.00	3.00	1.00	-	1.00	1.00	1.33	2.24

Appendix 4

Ceramic Wares by Site/Provenience/Period

Pueblo I-II Period

SITE=504

TABLE OF PUNIT BY WARE

PUNIT	WARE			
FREQUENCY ROW PCT	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	TOTAL
1	13 61.90	1 4.76	7 33.33	21
TOTAL	13	1	7	21

SITE=506

TABLE OF PUNIT BY WARE

PUNIT	WARE				
FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	1 2.00	23 46.00	25 50.00	1 2.00	50
TOTAL	1	23	25	1	50

SITE=512

TABLE OF PUNIT BY WARE

PUNIT	WARE					
FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	WHITE MTN RED	TOTAL
1	4 4.76	61 72.62	0 0.00	19 22.62	0 0.00	84
3	0 0.00	20 41.67	1 2.08	21 43.75	6 12.50	48
5	0 0.00	7 100.00	0 0.00	0 0.00	0 0.00	7
6	1 2.22	36 80.00	0 0.00	8 17.78	0 0.00	45
10	3 13.64	13 59.09	0 0.00	4 18.18	2 9.09	22
TOTAL	8	137	1	52	8	206

SITE=513

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARES	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	WHITE MTN RED	TOTAL
1	10 21.74	12 26.09	3 6.52	8 17.39	13 28.26	46
2	0 0.00	8 44.44	0 0.00	10 55.56	0 0.00	18
TOTAL	10	20	3	18	13	64

SITE=532

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARES	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	WHITE MTN RED	TOTAL
1	2 3.70	29 53.70	2 3.70	20 37.04	1 1.85	54
2	8 13.79	29 50.00	0 0.00	20 34.48	1 1.72	58
TOTAL	10	58	2	40	2	112

SITE=546

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARES	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	TOTAL
1	4 66.67	0 0.00	2 33.33	0 0.00	6
2	0 0.00	32 15.69	0 0.00	172 84.31	204
TOTAL	4	32	2	172	210

SITE=509

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	16	39	34	5	94
	17.02	41.49	36.17	5.32	
2	0	4	0	0	4
	0.00	100.00	0.00	0.00	
TOTAL	16	43	34	5	98

SITE=522

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	13	56	42	111
	11.71	50.45	37.84	
TOTAL	13	56	42	111

SITE=542

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	TOTAL
1	1	1
	100.00	
TOTAL	1	1

SITE=545

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	10	1	1	12
	83.33	8.33	8.33	
TOTAL	10	1	1	12

SITE=547

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	TOTAL
1	5	5
	100.00	
2	4	4
	100.00	
TOTAL	9	9

SITE=553

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	TOTAL
1	3	3
	100.00	
TOTAL	3	3

SITE=588

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	TOTAL
1	1	1
	100.00	
TOTAL	1	1

SITE=543

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARES	CIBOLA WHITE WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	14	25	10	12	61
	22.95	40.98	16.39	19.67	
2	19	17	7	10	53
	35.85	32.08	13.21	18.87	
3	3	23	10	1	37
	8.11	62.16	27.03	2.70	
4	0	6	2	0	8
	0.00	75.00	25.00	0.00	
5	0	3	4	0	7
	0.00	42.86	57.14	0.00	
6	0	3	3	0	6
	0.00	50.00	50.00	0.00	
7	0	2	2	0	4
	0.00	50.00	50.00	0.00	
8	0	1	2	0	3
	0.00	33.33	66.67	0.00	
9	0	3	2	0	5
	0.00	60.00	40.00	0.00	
10	0	8	2	0	10
	0.00	80.00	20.00	0.00	
11	0	3	2	0	5
	0.00	60.00	40.00	0.00	
TOTAL	36	94	46	23	199

Pueblo II Period

SITE=501

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	1 7.69	7 53.85	4 30.77	1 7.69	13
2	0 0.00	1 100.00	0 0.00	0 0.00	1
3	0 0.00	1 50.00	1 50.00	0 0.00	2
4	0 0.00	12 63.16	7 36.84	0 0.00	19
5	1 33.33	2 66.67	0 0.00	0 0.00	3
6	3 33.33	3 33.33	1 11.11	2 22.22	9
7	0 0.00	5 45.45	6 54.55	0 0.00	11
8	3 18.75	8 50.00	4 25.00	1 6.25	16
TOTAL	8	39	23	4	74

SITE=511

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	21 63.64	12 36.36	33
TOTAL	21	12	33

SITE=514

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	3 10.00	10 33.33	17 56.67	30
TOTAL	3	10	17	30

SITE=515

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	TOTAL
1	3 60.00	2 40.00	5
TOTAL	3	2	5

SITE=516

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	CIBOLA WHT WARE	TOTAL
2	3 100.00	3
TOTAL	3	3

SITE=518

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	2	14	7	1	24
	8.33	58.33	29.17	4.17	
TOTAL	2	14	7	1	24

SITE=524

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	2	5	5	1	13
	15.38	38.46	38.46	7.69	
TOTAL	2	5	5	1	13

SITE=519

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	DEC'D BR OWN, ETC	GRAY WARES	WHITE MTN RED	TOTAL
1	0	17	0	16	0	33
	0.00	51.52	0.00	48.48	0.00	
2	5	37	2	12	2	58
	8.62	63.79	3.45	20.69	3.45	
TOTAL	5	54	2	28	2	91

SITE=530

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	TOTAL
1	6	6
	100.00	
TOTAL	6	6

SITE=520

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	WHITE MTN RED	TOTAL
1	5	16	1	22
	22.73	72.73	4.55	
TOTAL	5	16	1	22

SITE=531

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	6	2	8
	75.00	25.00	
TOTAL	6	2	8

SITE=535

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	2	2	1	1	6
	33.33	33.33	16.67	16.67	
TOTAL	2	2	1	1	6

SITE=550

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	49	3	52
	94.23	5.77	
TOTAL	49	3	52

SITE=539

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	TOTAL
2	4	4
	100.00	
TOTAL	4	4

SITE=552

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	11	2	13
	84.62	15.38	
TOTAL	11	2	13

SITE=555

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	8	5	13
	61.54	38.46	
TOTAL	8	5	13

SITE=549

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	10	7	17
	58.82	41.18	
TOTAL	10	7	17

SITE=554

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	18	17	35
	51.43	48.57	
TOTAL	18	17	35

SITE=556

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	13	9	1	23
	56.52	39.13	4.35	
TOTAL	13	9	1	23

SITE=568

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	3	1	5	9
	33.33	11.11	55.56	
TOTAL	3	1	5	9

SITE=564

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	TOTAL
1	19	19
	100.00	
TOTAL	19	19

SITE=569

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	2	5	3	10
	20.00	50.00	30.00	
TOTAL	2	5	3	10

SITE=580

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	1	1	2
	50.00	50.00	
TOTAL	1	1	2

SITE=566

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	42	1	23	66
	63.64	1.52	34.85	
TOTAL	42	1	23	66

SITE=577

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	1	6	1	8
	12.50	75.00	12.50	
TOTAL	1	6	1	8

SITE=582

TABLE OF PUNIT BY WARE

PUNIT	WARE	
FREQUENCY / ROW PCT	GRAY WARES	TOTAL
1	3 100.00	3
2	2 100.00	2
TOTAL	5	5

SITE=587

TABLE OF PUNIT BY WARE

PUNIT	WARE		
FREQUENCY / ROW PCT	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	2 25.00	6 75.00	8
TOTAL	2	6	8

SITE=583

TABLE OF PUNIT BY WARE

PUNIT	WARE			
FREQUENCY / ROW PCT	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	1 20.00	3 60.00	1 20.00	5
TOTAL	1	3	1	5

SITE=590

TABLE OF PUNIT BY WARE

PUNIT	WARE		
FREQUENCY / ROW PCT	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	3 42.86	4 57.14	7
TOTAL	3	4	7

Pueblo II-Pueblo III Period

SITE=505

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	WHITE MTN RED	TOTAL
1	0 0.00	14 46.67	0 0.00	16 53.33	0 0.00	30
2	4 8.51	18 38.30	0 0.00	24 51.06	1 2.13	47
3	4 40.00	6 60.00	0 0.00	0 0.00	0 0.00	10
5	3 12.00	12 48.00	0 0.00	10 40.00	0 0.00	25
12	3 15.00	9 45.00	0 0.00	7 35.00	1 5.00	20
13	22 21.36	44 42.72	0 0.00	15 14.56	22 21.36	103
15	0 0.00	3 33.33	0 0.00	6 66.67	0 0.00	9
16	0 0.00	9 75.00	0 0.00	3 25.00	0 0.00	12
17	1 5.56	8 44.44	0 0.00	9 50.00	0 0.00	18
21	2 8.00	18 72.00	0 0.00	5 20.00	0 0.00	25
22	9 60.00	2 13.33	2 13.33	2 13.33	0 0.00	15
TOTAL	48	143	2	97	24	314

SITE=507

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	18 47.37	18 47.37	2 5.26	38
TOTAL	18	18	2	38

SITE=510

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	7	20	11	3	41
	17.07	48.78	26.83	7.32	
TOTAL	7	20	11	3	41

SITE=529

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	20	3	23
	86.96	13.04	
TOTAL	20	3	23

SITE=523

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	39	16	55
	70.91	29.09	
TOTAL	39	16	55

SITE=528

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	3	18	5	26
	11.54	69.23	19.23	
TOTAL	3	18	5	26

SITE=526

TABLE OF PUNIT BY WARE

PUNIT / WARE	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	2	11	13
	15.38	84.62	
TOTAL	2	11	13

SITE=527

TABLE OF PUNIT BY WARE

PUNIT / WARE	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	7	17	16	12	52
	13.46	32.69	30.77	23.08	
TOTAL	7	17	16	12	52

SITE=533

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	10 38.46	7 26.92	6 23.08	3 11.54	26
TOTAL	10	7	6	3	26

SITE=544

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	5 17.86	15 53.57	6 21.43	2 7.14	28
TOTAL	5	15	6	2	28

SITE=536

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	19 25.33	24 32.00	30 40.00	2 2.67	75
TOTAL	19	24	30	2	75

SITE=560

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	15 27.78	20 37.04	14 25.93	5 9.26	54
TOTAL	15	20	14	5	54

SITE=538

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	TOTAL
2	1 16.67	2 33.33	3 50.00	6
TOTAL	1	2	3	6

SITE=561

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	1 4.76	8 38.10	10 47.62	2 9.52	21
TOTAL	1	8	10	2	21

SITE=563

TABLE OF PUNIT BY WARE

PUNIT	WARE	
FREQUENCY ROW PCT	GRAY WARES	TOTAL
1	2 100.00	2
TOTAL	2	2

SITE=579

TABLE OF PUNIT BY WARE

PUNIT	WARE				
FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	22 25.88	29 34.12	26 30.59	8 9.41	85
TOTAL	22	29	26	8	85

SITE=565

TABLE OF PUNIT BY WARE

PUNIT	WARE				
FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	7 9.46	21 28.38	43 58.11	3 4.05	74
3	65 44.22	32 21.77	31 21.09	19 12.93	147
TOTAL	72	53	74	22	221

SITE=581

TABLE OF PUNIT BY WARE

PUNIT	WARE		
FREQUENCY ROW PCT	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	4 36.36	7 63.64	11
TOTAL	4	7	11

SITE=576

TABLE OF PUNIT BY WARE

PUNIT	WARE				
FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	13 25.49	16 31.37	10 19.61	12 23.53	51
TOTAL	13	16	10	12	51

SITE=603

TABLE OF PUNIT BY WARE

PUNIT	WARE			
FREQUENCY ROW PCT	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	7 33.33	13 61.90	1 4.76	21
TOTAL	7	13	1	21

SITE=606

TABLE OF PUNIT BY WARE

PUNIT	WARE		
FREQUENCY / ROW PCT	CIBOLA WHT WARE	GRAY WARES	TOTAL
1	5	8	13
	38.46	61.54	
TOTAL	5	8	13

SITE=604

TABLE OF PUNIT BY WARE

PUNIT	WARE				
FREQUENCY / ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	1	4	5	1	11
	9.09	36.36	45.45	9.09	
TOTAL	1	4	5	1	11

SITE=534

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARE RES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	7	19	6	10	42
	16.67	45.24	14.29	23.81	
TOTAL	7	19	6	10	42

SITE=586

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARE RES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	7	33	18	5	63
	11.11	52.38	28.57	7.94	
TOTAL	7	33	18	5	63

SITE=567

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARE RES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	28	15	12	3	58
	48.28	25.86	20.69	5.17	
TOTAL	28	15	12	3	58

SITE=589

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARE RES	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	WHITE MTN RED	TOTAL
1	11	38	1	48	9	107
	10.28	35.51	0.93	44.86	8.41	
TOTAL	11	38	1	48	9	107

SITE=559

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARE RES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	16	26	9	32	83
	19.28	31.33	10.84	38.55	
TOTAL	16	26	9	32	83

SITE=593

TABLE OF PUNIT BY WARE

PUNIT / FREQUENCY / ROW PCT	BROWN WARE RES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	5	10	13	6	34
	14.71	29.41	38.24	17.65	
TOTAL	5	10	13	6	34

SITE=502

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	3 15.79	8 42.11	4 21.05	4 21.05	19
TOTAL	3	8	4	4	19

SITE=508

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	CIBOLA W HT WARE	TOTAL
1	1 100.00	1
TOTAL	1	1

SITE=521

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	7 25.00	11 39.29	7 25.00	3 10.71	28
TOTAL	7	11	7	3	28

SITE=525

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	11 47.83	7 30.43	1 4.35	4 17.39	23
2	1 50.00	1 50.00	0 0.00	0 0.00	2
TOTAL	12	8	1	4	25

SITE=541

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	WHITE MT N RED	TOTAL
1	1 100.00	1
TOTAL	1	1

SITE=600

TABLE OF PUNIT BY WARE

PUNIT / WARE FREQUENCY ROW PCT	BROWN WA RES	CIBOLA W HT WARE	GRAY WAR ES	WHITE MT N RED	TOTAL
1	2 8.70	6 26.09	5 21.74	10 43.48	23
TOTAL	2	6	5	10	23

SITE=598

TABLE OF PUNIT BY WARE

PUNIT	WARE				
FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	4 12.12	7 21.21	9 27.27	13 39.39	33
TOTAL	4	7	9	13	33

SITE=599

TABLE OF PUNIT BY WARE

PUNIT	WARE					
FREQUENCY ROW PCT	BROWN WARES	CIBOLA WHT WARE	DEC'D BROWN, ETC	GRAY WARES	WHITE MTN RED	TOTAL
1	13 23.21	15 26.79	3 5.36	10 17.86	15 26.79	56
TOTAL	13	15	3	10	15	56

SITE=601

TABLE OF PUNIT BY WARE

PUNIT	WARE			
FREQUENCY ROW PCT	CIBOLA WHT WARE	GRAY WARES	WHITE MTN RED	TOTAL
1	6 46.15	5 38.46	2 15.38	13
TOTAL	6	5	2	13

SITE=605

TABLE OF PUNIT BY WARE

PUNIT	WARE		
FREQUENCY ROW PCT	GRAY WARES	WHITE MTN RED	TOTAL
1	3 60.00	2 40.00	5
TOTAL	3	2	5

Appendix 5

Ceramic Types By Site and Provenience

SITE=501 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PATTERN CORR'D	1	7.7
CIBOLA WHT WARE	RESERVE B/W	2	15.4
CIBOLA WHT WARE	GALLUP B/W	1	7.7
CIBOLA WHT WARE	SOCORRO B/W	1	7.7
CIBOLA WHT WARE	UNID CHN B/W	3	23.1
GRAY WARES	PLAIN CORRUGATED	2	15.4
GRAY WARES	UNID GRAY	2	15.4
WHITE MTN RED	UNIDENTIFIED WMR	1	7.7
PUNIT		13	100.0

SITE=501 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	TULAROSA B/W	1	100.0

SITE=501 PUNIT=3

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	GALLUP B/W	1	50.0
GRAY WARES	PLAIN CORRUGATED	1	50.0
PUNIT		2	100.0

SITE=501 PUNIT=4

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	2	10.5
CIBOLA WHT WARE	RES/TULA B/W	2	10.5
CIBOLA WHT WARE	PUERCO B/W	2	10.5
CIBOLA WHT WARE	GALLUP B/W	2	10.5
CIBOLA WHT WARE	SOCORRO B/W	1	5.3
CIBOLA WHT WARE	UNID CHN B/W	3	15.8
GRAY WARES	INDENTED CORR'D	6	31.6
GRAY WARES	CLAPBOARD	1	5.3
PUNIT		19	100.0

SITE=501 PUNIT=5

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	INDENTED CORR'D	1	33.3
CIBOLA WHT WARE	TULAROSA B/W	1	33.3
CIBOLA WHT WARE	PUERCO B/W	1	33.3
PUNIT		3	100.0

SITE=501 PUNIT=6

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN CORRUGATED	1	11.1
BROWN WARES	INDENTED CORR'D	1	11.1
BROWN WARES	PATTERN CORR'D	1	11.1
CIBOLA WHT WARE	RESERVE B/W	2	22.2
CIBOLA WHT WARE	UNID CHN B/W	1	11.1
GRAY WARES	PLAIN CORRUGATED	1	11.1
WHITE MTN RED	WINGATE B/R	1	11.1
WHITE MTN RED	UNIDENTIFIED WMR	1	11.1
PUNIT		9	100.0

SITE=501 PUNIT=7

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	ESCAVADA B/W	1	9.1
CIBOLA WHT WARE	PUERCO B/W	2	18.2
CIBOLA WHT WARE	UNID CHN B/W	2	18.2
GRAY WARES	INDENTED CORR'D	2	18.2
GRAY WARES	CLAPBOARD	2	18.2
GRAY WARES	UNID GRAY	2	18.2
PUNIT		11	100.0

SITE=501 PUNIT=8

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	6.3
BROWN WARES	PLAIN CORRUGATED	1	6.3
BROWN WARES	PATTERN CORR'D	1	6.3
CIBOLA WHT WARE	RESERVE B/W	1	6.3
CIBOLA WHT WARE	ESCAVADA B/W	1	6.3
CIBOLA WHT WARE	GALLUP B/W	2	12.5
CIBOLA WHT WARE	UNID CHN B/W	4	25.0
GRAY WARES	INDENTED CORR'D	1	6.3
GRAY WARES	CLAPBOARD	3	18.8
WHITE MTN RED	PUERCO B/R	1	6.3
PUNIT		16	100.0
SITE		74	800.0

SITE=502 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	5.3
BROWN WARES	PLAIN POLISHED	1	5.3
BROWN WARES	INDENTED CORR'D	1	5.3
CIBOLA WHT WARE	RESERVE B/W	1	5.3
CIBOLA WHT WARE	RES/TULA B/W	1	5.3
CIBOLA WHT WARE	RED MESA B/W	2	10.5
CIBOLA WHT WARE	PUERCO B/W	1	5.3
CIBOLA WHT WARE	GALLUP B/W	1	5.3
CIBOLA WHT WARE	R.M./GALLUP B/W	1	5.3
CIBOLA WHT WARE	UNID CHN B/W	1	5.3
GRAY WARES	INDENTED CORR'D	1	5.3
GRAY WARES	PLAIN GRAY	1	5.3
GRAY WARES	BANDED WIDE	1	5.3
GRAY WARES	BANDED NARROW	1	5.3
WHITE MTN RED	PUERCO B/R	1	5.3
WHITE MTN RED	ST. JOHNS B/R	1	5.3
WHITE MTN RED	UNIDENTIFIED WMR	2	10.5
PUNIT		19	100.0
SITE		19	100.0

SITE=504 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	KIATUTHLANA B/W	5	23.8
CIBOLA WHT WARE	RED MESA B/W	1	4.8
CIBOLA WHT WARE	ESCAVADA B/W	1	4.8
CIBOLA WHT WARE	PUERCO B/W	2	9.5
CIBOLA WHT WARE	UNID CHN B/W	4	19.0
DEC'D BROWN, ETC	PLAIN RED WARE	1	4.8
GRAY WARES	PLAIN CORRUGATED	2	9.5
GRAY WARES	INDENTED CORR'D	4	19.0
GRAY WARES	UNID GRAY	1	4.8
PUNIT		21	100.0
SITE		21	100.0

SITE=505 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	7	23.3
CIBOLA WHT WARE	TULAROSA B/W	1	3.3
CIBOLA WHT WARE	RED MESA B/W	1	3.3
CIBOLA WHT WARE	ESCAVADA B/W	3	10.0
CIBOLA WHT WARE	PUERCO B/W	1	3.3
CIBOLA WHT WARE	GALLUP B/W	1	3.3
GRAY WARES	PLAIN CORRUGATED	3	10.0
GRAY WARES	INDENTED CORR'D	4	13.3
GRAY WARES	KANA'A NECK-BAND	1	3.3
GRAY WARES	CLAPBOARD	8	26.7
PUNIT		30	100.0

SITE=505 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	2.1
BROWN WARES	PLAIN POLISHED	1	2.1
BROWN WARES	PLAIN CORRUGATED	1	2.1
BROWN WARES	INDENTED CORR'D	1	2.1
CIBOLA WHT WARE	RESERVE B/W	4	8.5
CIBOLA WHT WARE	TULAROSA B/W	1	2.1
CIBOLA WHT WARE	RED MESA B/W	2	4.3
CIBOLA WHT WARE	ESCAVAOA B/W	1	2.1
CIBOLA WHT WARE	PUERCO B/W	1	2.1
CIBOLA WHT WARE	GALLUP B/W	1	2.1
CIBOLA WHT WARE	SOCORRO B/W	2	4.3
CIBOLA WHT WARE	UNIO CNW B/W	6	12.8
GRAY WARES	PLAIN CORRUGATED	7	14.9
GRAY WARES	INDENTED CORR'D	16	34.0
GRAY WARES	CLAPBOARD	1	2.1
WHITE MTN REO	WINGATE B/R	1	2.1
PUNIT		47	100.0

SITE=505 PUNIT=3

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	INDENTED CORR'D	4	40.0
CIBOLA WHT WARE	RESERVE B/W	1	10.0
CIBOLA WHT WARE	RED MESA B/W	2	20.0
CIBOLA WHT WARE	ESCAVADA B/W	1	10.0
CIBOLA WHT WARE	UNIO CNW B/W	2	20.0
PUNIT		10	100.0

SITE=505 PUNIT=5

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	1	4.0
BROWN WARES	PLAIN CORRUGATED	1	4.0
BROWN WARES	TOOLED CORR'D	1	4.0
CIBOLA WHT WARE	RESERVE B/W	4	16.0
CIBOLA WHT WARE	RED MESA B/W	3	12.0
CIBOLA WHT WARE	ESCAVADA B/W	4	16.0
CIBOLA WHT WARE	PUERCO B/W	1	4.0
GRAY WARES	PLAIN CORRUGATED	3	12.0
GRAY WARES	INDENTED CORR'D	2	8.0
GRAY WARES	CLAPBOARD	5	20.0
PUNIT		25	100.0

SITE=505 PUNIT=12

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PATTERN CORR'D	1	5.0
BROWN WARES	UNID BROWN	2	10.0
CIBOLA WHT WARE	RESERVE B/W	2	10.0
CIBOLA WHT WARE	PUERCO B/W	4	20.0
CIBOLA WHT WARE	UNID CNW B/W	3	15.0
GRAY WARES	PLAIN CORRUGATED	5	25.0
GRAY WARES	UNIO GRAY	2	10.0
WHITE MTN RED	UNIOENTIFIED WMR	1	5.0
PUNIT		20	100.0

SITE=505 PUNIT=13

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	9	8.7
BROWN WARES	PLAIN CORRUGATED	13	12.6
CIBOLA WHT WARE	RESERVE B/W	2	1.9
CIBOLA WHT WARE	TULAROSA B/W	2	1.9
CIBOLA WHT WARE	RES/TULA B/W	1	1.0
CIBOLA WHT WARE	KIATUTHLANA B/W	2	1.9
CIBOLA WHT WARE	REO MESA B/W	5	4.9
CIBOLA WHT WARE	ESCAVADA B/W	12	11.7
CIBOLA WHT WARE	PUERCO B/W	1	1.0
CIBOLA WHT WARE	MIMBRES B/W	1	1.0
CIBOLA WHT WARE	UNIO CNW B/W	18	17.5
GRAY WARES	INDENTED CORR'D	5	4.9
GRAY WARES	PLAIN GRAY	1	1.0
GRAY WARES	BANDED WIDE	4	3.9
GRAY WARES	BANDED NARROW	4	3.9
GRAY WARES	BANDED WIDE SM	1	1.0
WHITE MTN RED	PUERCO B/R	1	1.0
WHITE MTN REO	WINGATE B/R	1	1.0
WHITE MTN REO	ST. JOHNS B/R	20	19.4
PUNIT		103	100.0

SITE=505 PUNIT=15

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RED MESA B/W	1	11.1
CIBOLA WHT WARE	PUERCO B/W	1	11.1
CIBOLA WHT WARE	GALLUP B/W	1	11.1
GRAY WARES	INDENTED CORR'D	2	22.2
GRAY WARES	PLAIN GRAY	1	11.1
GRAY WARES	BANDED WIDE	1	11.1
GRAY WARES	BANDED NARROW	1	11.1
GRAY WARES	BANDED NARR SM	1	11.1
PUNIT		9	100.0

SITE=505 PUNIT=16

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RES/TULA B/W	2	16.7
CIBOLA WHT WARE	RED MESA B/W	1	8.3
CIBOLA WHT WARE	PUERCO B/W	1	8.3
CIBOLA WHT WARE	GALLUP B/W	1	8.3
CIBOLA WHT WARE	UNID CNW B/W	4	33.3
GRAY WARES	BANDED WIDE	1	8.3
GRAY WARES	BANDED WIDE SM	2	16.7
PUNIT		12	100.0

SITE=505 PUNIT=17

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	5.6
CIBOLA WHT WARE	REO MESA B/W	1	5.6
CIBOLA WHT WARE	PUERCO B/W	1	5.6
CIBOLA WHT WARE	UNID CNW B/W	6	33.3
GRAY WARES	INDENTED CORR'D	1	5.6
GRAY WARES	PLAIN GRAY	7	38.9
GRAY WARES	BANDED NARROW	1	5.6
PUNIT		18	100.0

SITE=505 PUNIT=21

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	INDENTED CORR'D	1	4.0
BROWN WARES	TOOLED CORR'D	1	4.0
CIBOLA WHT WARE	RESERVE B/W	5	20.0
CIBOLA WHT WARE	RES/TULA B/W	1	4.0
CIBOLA WHT WARE	KIATUTHLANA B/W	2	8.0
CIBOLA WHT WARE	REO MESA B/W	3	12.0
CIBOLA WHT WARE	ESCAVADA B/W	1	4.0
CIBOLA WHT WARE	PUERCO B/W	2	8.0
CIBOLA WHT WARE	MIMBRES B/W	1	4.0
CIBOLA WHT WARE	UNID CNW B/W	3	12.0
GRAY WARES	PLAIN CORRUGATED	1	4.0
GRAY WARES	KANA'A NECK-BAND	2	8.0
GRAY WARES	CLAPBOARD	1	4.0
GRAY WARES	UNID GRAY	1	4.0
PUNIT		25	100.0

SITE=505 PUNIT=22

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	8	53.3
BROWN WARES	PLAIN POLISHED	1	6.7
CIBOLA WHT WARE	REO MESA B/W	1	6.7
CIBOLA WHT WARE	UNIO CNW B/W	1	6.7
DFC'D BROWN, ETC	SAN FRAN REO	2	13.3
GRAY WARES	PLAIN CORRUGATED	1	6.7
GRAY WARES	KANA'A NECK-BAND	1	6.7
PUNIT		15	100.0
SITE		314	1100

SITE=506 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN CORRUGATED	1	2.0
CIBOLA WHT WARE	RESERVE B/W	3	6.0
CIBOLA WHT WARE	RES/TULA B/W	4	8.0
CIBOLA WHT WARE	KIATUTHLANA B/W	2	4.0
CIBOLA WHT WARE	RED MESA B/W	5	10.0
CIBOLA WHT WARE	ESCAVADA B/W	3	6.0
CIBOLA WHT WARE	R.M./GALLUP B/W	1	2.0
CIBOLA WHT WARE	UNID CHN B/W	5	10.0
GRAY WARES	INDENTED CORR'D	2	4.0
GRAY WARES	PLAIN GRAY	7	14.0
GRAY WARES	CLAPBOARD	2	4.0
GRAY WARES	UNID GRAY	10	20.0
GRAY WARES	BANDED WIDE	3	6.0
GRAY WARES	BANDED NARROW	1	2.0
WHITE MTN RED	PUERCO B/R	1	2.0
PUNIT		50	100.0
SITE		50	100.0

SITE=507 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	4	10.5
CIBOLA WHT WARE	RES/TULA B/W	1	2.6
CIBOLA WHT WARE	PUERCO B/W	3	7.9
CIBOLA WHT WARE	UNID CHN B/W	7	18.4
CIBOLA WHT WARE	UNID SOLID B/W	2	5.3
CIBOLA WHT WARE	UNID HATCH B/W	1	2.6
GRAY WARES	INDENTED CORR'D	7	18.4
GRAY WARES	PLAIN GRAY	10	26.3
GRAY WARES	BANDED NARROW	1	2.6
WHITE MTN RED	WINGATE B/R	1	2.6
WHITE MTN RED	UNIDENTIFIED WMR	1	2.6
PUNIT		38	100.0
SITE		38	100.0

SITE=508 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	100.0

SITE=509 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	8	8.5
BROWN WARES	PLAIN CORRUGATED	2	2.1
BROWN WARES	INDENTED CORR'D	3	3.2
BROWN WARES	PATTERN CORR'D	1	1.1
BROWN WARES	TOOLED CORR'D	2	2.1
CIBOLA WHT WARE	RESERVE B/W	6	6.4
CIBOLA WHT WARE	TULAROSA B/W	1	1.1
CIBOLA WHT WARE	RES/TULA B/W	2	2.1
CIBOLA WHT WARE	KIATUTHLANA B/W	3	3.2
CIBOLA WHT WARE	RED MESA B/W	2	2.1
CIBOLA WHT WARE	ESCAVADA B/W	5	5.3
CIBOLA WHT WARE	PUERCO B/W	3	3.2
CIBOLA WHT WARE	GALLUP B/W	1	1.1
CIBOLA WHT WARE	SOCORRO B/W	2	2.1
CIBOLA WHT WARE	R.M./GALLUP B/W	3	3.2
CIBOLA WHT WARE	UNID CHN B/W	10	10.6
CIBOLA WHT WARE	CHACO-MCELMO B/W	1	1.1
GRAY WARES	INDENTED CORR'D	13	13.8
GRAY WARES	PLAIN GRAY	15	16.0
GRAY WARES	BANDED WIDE	2	2.1
GRAY WARES	BANDED NARROW	4	4.3
WHITE MTN RED	PUERCO B/R	2	2.1
WHITE MTN RED	WINGATE B/R	2	2.1
WHITE MTN RED	UNIDENTIFIED WMR	1	1.1
PUNIT		94	100.0

SITE=509 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RED MESA B/W	2	50.0
CIBOLA WHT WARE	ESCAVADA B/W	2	50.0
PUNIT		4	100.0
SITE		98	200.0

SITE=510 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	2.4
BROWN WARES	PLAIN POLISHED	3	7.3
BROWN WARES	PLAIN CORRUGATED	1	2.4
BROWN WARES	INDENTED CORR'D	2	4.9
CIBOLA WHT WARE	RESERVE B/W	3	7.3
CIBOLA WHT WARE	TULAROSA B/W	2	4.9
CIBOLA WHT WARE	RES/TULA B/W	2	4.9
CIBOLA WHT WARE	KIATUTHLANA B/W	2	4.9
CIBOLA WHT WARE	ESCAVADA B/W	1	2.4
CIBOLA WHT WARE	GALLUP B/W	1	2.4
CIBOLA WHT WARE	UNID CHN B/W	8	19.5
CIBOLA WHT WARE	SNOWFLAKE B/W	1	2.4
GRAY WARES	INDENTED CORR'D	8	19.5
GRAY WARES	UNID GRAY	3	7.3
WHITE MTN RED	WINGATE B/R	3	7.3
PUNIT		41	100.0
SITE		41	100.0

SITE=511 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	6	18.2
CIBOLA WHT WARE	RES/TULA B/W	1	3.0
CIBOLA WHT WARE	RED MESA B/W	2	6.1
CIBOLA WHT WARE	PUERCO B/W	1	3.0
CIBOLA WHT WARE	R.M./GALLUP B/W	1	3.0
CIBOLA WHT WARE	UNID CHN B/W	10	30.3
GRAY WARES	INDENTED CORR'D	2	6.1
GRAY WARES	UNID GRAY	8	24.2
GRAY WARES	BANDED WIDE	1	3.0
GRAY WARES	BANDED NARROW	1	3.0
PUNIT		33	100.0
SITE		33	100.0

SITE=512 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	1.2
BROWN WARES	PLAIN POLISHED	3	3.6
CIBOLA WHT WARE	RESERVE B/W	6	7.1
CIBOLA WHT WARE	RED MESA B/W	14	16.7
CIBOLA WHT WARE	ESCAVADA B/W	2	2.4
CIBOLA WHT WARE	PUERCO B/W	8	9.5
CIBOLA WHT WARE	SOCORRO B/W	1	1.2
CIBOLA WHT WARE	R.M./GALLUP B/W	1	1.2
CIBOLA WHT WARE	UNID CHN B/W	29	34.5
GRAY WARES	UNID GRAY	11	13.1
GRAY WARES	BANDED WIDE	3	3.6
GRAY WARES	BANDED NARROW	5	6.0
PUNIT		84	100.0

SITE=512 PUNIT=3

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	6	12.5
CIBOLA WHT WARE	ESCAVADA B/W	1	2.1
CIBOLA WHT WARE	PUERCO B/W	1	2.1
CIBOLA WHT WARE	GALLUP B/W	7	14.6
CIBOLA WHT WARE	UNID CHN B/W	5	10.4
DEC'D BROWN, ETC	PLAIN RED WARE	1	2.1
GRAY WARES	INDENTED CORR'D	15	31.2
GRAY WARES	PLAIN GRAY	3	6.2
GRAY WARES	UNID GRAY	3	6.2
WHITE MTN RED	PUERCO B/R	3	6.2
WHITE MTN RED	UNIDENTIFIED WMR	3	6.2
PUNIT		48	100.0

SITE=512 PUNIT=5

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RED MESA B/W	7	100.0

SITE=512 PUNIT=6

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	2.2
CIBOLA WHT WARE	RESERVE B/W	3	6.7
CIBOLA WHT WARE	KIATUTHLANA B/W	1	2.2
CIBOLA WHT WARE	REO MESA B/W	8	17.8
CIBOLA WHT WARE	PUERCO B/W	1	2.2
CIBOLA WHT WARE	UNID CWN B/W	23	51.1
GRAY WARES	PLAIN GRAY	2	4.4
GRAY WARES	BANDED WIDE	3	6.7
GRAY WARES	INDENT TOOLED	3	6.7
PUNIT		45	100.0

SITE=512 PUNIT=10

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	1	4.5
BROWN WARES	INDENTED CORR'D	1	4.5
BROWN WARES	PATTERN CORR'D	1	4.5
CIBOLA WHT WARE	RESERVE B/W	4	18.2
CIBOLA WHT WARE	PUERCO B/W	1	4.5
CIBOLA WHT WARE	GALLUP B/W	1	4.5
CIBOLA WHT WARE	UNID CWN B/W	7	31.8
GRAY WARES	INDENTED CORR'D	3	13.6
GRAY WARES	BANDED NARROW	1	4.5
WHITE MTN REO	PUERCO B/R	1	4.5
WHITE MTN RED	ST. JOHNS B/R	1	4.5
PUNIT		22	100.0
SITE		206	500.0

SITE=513 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	2	4.3
BROWN WARES	INDENTED CORR'D	6	13.0
BROWN WARES	PATTERN CORR'D	1	2.2
BROWN WARES	PL BR-SMUDGD INT	1	2.2
CIBOLA WHT WARE	RESERVE B/W	3	6.5
CIBOLA WHT WARE	REO MESA B/W	6	13.0
CIBOLA WHT WARE	ESCAVADA B/W	1	2.2
CIBOLA WHT WARE	PUERCO B/W	2	4.3
DEC'D BROWN, ETC	SAN FRAN REO	3	6.5
GRAY WARES	INDENTED CORR'D	6	13.0
GRAY WARES	BANDED NARROW	2	4.3
WHITE MTN REO	PUERCO B/R	3	6.5
WHITE MTN RED	WINGATE B/R	6	13.0
WHITE MTN REO	UNIDENTIFIED WMR	4	8.7
PUNIT		46	100.0

SITE=513 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	6	33.3
CIBOLA WHT WARE	ESCAVADA B/W	1	5.6
CIBOLA WHT WARE	PUERCO B/W	1	5.6
GRAY WARES	INDENTED CORR'D	5	27.8
GRAY WARES	PLAIN GRAY	5	27.8
PUNIT		18	100.0
SITE		64	200.0

SITE=514 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	3	10.0
CIBOLA WHT WARE	RESERVE B/W	3	10.0
CIBOLA WHT WARE	REO MESA B/W	1	3.3
CIBOLA WHT WARE	PUERCO B/W	1	3.3
CIBOLA WHT WARE	GALLUP B/W	1	3.3
CIBOLA WHT WARE	R.M./GALLUP B/W	1	3.3
CIBOLA WHT WARE	UNID CWN B/W	3	10.0
GRAY WARES	INDENTED CORR'D	13	43.3
GRAY WARES	PLAIN GRAY	3	10.0
GRAY WARES	BANDED WIDE	1	3.3
PUNIT		30	100.0
SITE		30	100.0

SITE=515 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	3	60.0
CIBOLA WHT WARE	RESERVE B/W	1	20.0
CIBOLA WHT WARE	PUERCO B/W	1	20.0
PUNIT		5	100.0
SITE		5	100.0

SITE=516 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	33.3
CIBOLA WHT WARE	RED MESA B/W	1	33.3
CIBOLA WHT WARE	UNID CWN B/W	1	33.3
PUNIT		3	100.0
SITE		3	100.0

SITE=518 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN CORRUGATED	1	4.2
BROWN WARES	PL BR-SMUDGD INT	1	4.2
CIBOLA WHT WARE	RESERVE B/W	3	12.5
CIBOLA WHT WARE	PUERCO B/W	1	4.2
CIBOLA WHT WARE	UNID CWN B/W	10	41.7
GRAY WARES	INDENTED CORR'D	3	12.5
GRAY WARES	PLAIN GRAY	2	8.3
GRAY WARES	BANDED NARROW	1	4.2
GRAY WARES	BANDED NARR SM	1	4.2
WHITE MTN RED	PUERCO B/R	1	4.2
PUNIT		24	100.0
SITE		24	100.0

SITE=519 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	3.0
CIBOLA WHT WARE	RED MESA B/W	4	12.1
CIBOLA WHT WARE	ESCAVADA B/W	2	6.1
CIBOLA WHT WARE	R.M./GALLUP B/W	1	3.0
CIBOLA WHT WARE	UNID CWN B/W	9	27.3
GRAY WARES	INDENTED CORR'D	5	15.2
GRAY WARES	PATTERN CORR'D	2	6.1
GRAY WARES	PLAIN GRAY	4	12.1
GRAY WARES	BANDED NARROW	3	9.1
GRAY WARES	BANDED WIDE SM	2	6.1
PUNIT		33	100.0

SITE=519 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	2	3.4
BROWN WARES	PLAIN POLISHED	2	3.4
BROWN WARES	TOOLED CORR'D	1	1.7
CIBOLA WHT WARE	RESERVE B/W	11	19.0
CIBOLA WHT WARE	RES/TULA B/W	1	1.7
CIBOLA WHT WARE	ESCAVADA B/W	2	3.4
CIBOLA WHT WARE	GALLUP B/W	1	1.7
CIBOLA WHT WARE	UNID CWN B/W	22	37.9
DEC'D BROWN, ETC	PLAIN RED WARE	2	3.4
GRAY WARES	INDENTED CORR'D	6	10.3
GRAY WARES	PLAIN GRAY	5	8.6
GRAY WARES	BANDED WIDE	1	1.7
WHITE MTN RED	UNIDENTIFIED WMR	2	3.4
PUNIT		58	100.0
SITE		91	200.0

SITE=520 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	4.5
BROWN WARES	PLAIN POLISHED	4	18.2
CIBOLA WHT WARE	RESERVE B/W	4	18.2
CIBOLA WHT WARE	UNID CWN B/W	12	54.5
WHITE MTN REO	ST. JOHNS B/R	1	4.5
PUNIT		22	100.0
SITE		22	100.0

SITE=521 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	3	10.7
BROWN WARES	PLAIN CORRUGATED	1	3.6
BROWN WARES	INDENTED CORR'D	3	10.7
CIBOLA WHT WARE	UNID CWN B/W	11	39.3
GRAY WARES	INDENTED CORR'D	4	14.3
GRAY WARES	BANDED NARROW	2	7.1
GRAY WARES	INDENTED INCISED	1	3.6
WHITE MTN RED	ST. JOHNS B/R	3	10.7
PUNIT		28	100.0
SITE		28	100.0

SITE=522 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	2	1.8
BROWN WARES	PLAIN POLISHED	5	4.5
BROWN WARES	PLAIN CORRUGATED	6	5.4
CIBOLA WHT WARE	RESERVE B/W	6	5.4
CIBOLA WHT WARE	KIATUTHLANA B/W	3	2.7
CIBOLA WHT WARE	RED MESA B/W	11	9.9
CIBOLA WHT WARE	ESCAVADA B/W	4	3.6
CIBOLA WHT WARE	PUERCO B/W	2	1.8
CIBOLA WHT WARE	GALLUP B/W	3	2.7
CIBOLA WHT WARE	UNID CWN B/W	25	22.5
CIBOLA WHT WARE	KOHINA B/W	2	1.8
GRAY WARES	PLAIN GRAY	10	9.0
GRAY WARES	UNID GRAY	25	22.5
GRAY WARES	BANDED WIDE	2	1.8
GRAY WARES	BANDED NARROW	2	1.8
GRAY WARES	EXUBERANT CORR'D	3	2.7
PUNIT		111	100.0
SITE		111	100.0

SITE=523 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	3	5.5
CIBOLA WHT WARE	RED MESA B/W	8	14.5
CIBOLA WHT WARE	ESCAVADA B/W	1	1.8
CIBOLA WHT WARE	PUERCO B/W	1	1.8
CIBOLA WHT WARE	UNID CWN B/W	24	43.6
CIBOLA WHT WARE	KOHINA B/W	2	3.6
GRAY WARES	INDENTED CORR'D	2	3.6
GRAY WARES	PLAIN GRAY	6	10.9
GRAY WARES	BANDED WIDE	2	3.6
GRAY WARES	BANDED NARROW	5	9.1
GRAY WARES	BANDED WIDE SM	1	1.8
PUNIT		55	100.0
SITE		55	100.0

SITE=524 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	7.7
BROWN WARES	PL BR-SMUDGD INT	1	7.7
CIBOLA WHT WARE	RESERVE B/W	2	15.4
CIBOLA WHT WARE	RED MESA B/W	1	7.7
CIBOLA WHT WARE	ESCAVADA B/W	1	7.7
CIBOLA WHT WARE	GALLUP B/W	1	7.7
GRAY WARES	INDENTED CORR'D	3	23.1
GRAY WARES	PLAIN GRAY	2	15.4
WHITE MTN RED	PUERCO B/R	1	7.7
PUNIT		13	100.0
SITE		13	100.0

SITE=525 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	2	8.7
BROWN WARES	INDENTED CORR'D	7	30.4
BROWN WARES	PATTERN CORR'D	2	8.7
CIBOLA WHT WARE	TULAROSA B/W	3	13.0
CIBOLA WHT WARE	RES/TULA B/W	1	4.3
CIBOLA WHT WARE	UNID CWN B/W	3	13.0
GRAY WARES	INDENTED CORR'D	1	4.3
WHITE MTN RED	ST. JOHNS B/R	1	4.3
WHITE MTN RED	ST. JOHNS POLY	3	13.0
PUNIT		23	100.0

SITE=525 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	1	50.0
CIBOLA WHT WARE	UNID CWN B/W	1	50.0
PUNIT		2	100.0
SITE		25	200.0

SITE=526 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	7.7
CIBOLA WHT WARE	UNID CWN B/W	1	7.7
GRAY WARES	INDENTED CORR'D	4	30.8
GRAY WARES	BANDED NARROW	7	53.8
PUNIT		13	100.0
SITE		13	100.0

SITE=527 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	INDENTED CORR'D	6	11.5
BROWN WARES	PATTERN CORR'D	1	1.9
CIBOLA WHT WARE	RESERVE B/W	2	3.8
CIBOLA WHT WARE	RES/TULA B/W	4	7.7
CIBOLA WHT WARE	PUERCO B/W	3	5.8
CIBOLA WHT WARE	UNID CWN B/W	6	11.5
CIBOLA WHT WARE	CHACO-MCELMO B/W	2	3.8
GRAY WARES	INDENTED CORR'D	13	25.0
GRAY WARES	BANDED NARROW	3	5.8
WHITE MTN RED	WINGATE B/R	1	1.9
WHITE MTN RED	ST. JOHNS B/R	4	7.7
WHITE MTN RED	ST. JOHNS POLY	1	1.9
WHITE MTN RED	UNIDENTIFIED WMR	6	11.5
PUNIT		52	100.0
SITE		52	100.0

SITE=528 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN CORRUGATED	3	11.5
CIBOLA WHT WARE	RESERVE B/W	3	11.5
CIBOLA WHT WARE	RES/TULA B/W	4	15.4
CIBOLA WHT WARE	UNID CWN B/W	11	42.3
GRAY WARES	INDENTED CORR'D	5	19.2
PUNIT		26	100.0

SITE=529 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	4.3
CIBOLA WHT WARE	RES/TULA B/W	19	82.6
GRAY WARES	BANDED NARROW	3	13.0
PUNIT		23	100.0
SITE		23	100.0

SITE=530 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	PUERCO B/W	3	50.0
CIBOLA WHT WARE	UNID CWN B/W	3	50.0
PUNIT		6	100.0
SITE		6	100.0

SITE=531 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	2	25.0
CIBOLA WHT WARE	UNID CWN B/W	4	50.0
GRAY WARES	BANDED WIDE	2	25.0
PUNIT		8	100.0
SITE		8	100.0

SITE=532 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	2	3.7
CIBOLA WHT WARE	RESERVE B/W	2	3.7
CIBOLA WHT WARE	KIATUTHLANA B/W	1	1.9
CIBOLA WHT WARE	ESCAVADA B/W	2	3.7
CIBOLA WHT WARE	PUERCO B/W	5	9.3
CIBOLA WHT WARE	UNID CWN B/W	16	29.6
CIBOLA WHT WARE	KOHINA B/W	3	5.6
DEC'D BROWN, ETC	PLAIN RED WARE	2	3.7
GRAY WARES	PLAIN GRAY	10	18.5
GRAY WARES	CLAPBOARD	1	1.9
GRAY WARES	BANDED WIDE	7	13.0
GRAY WARES	BANDED NARROW	2	3.7
WHITE MTN RED	PUERCO B/R	1	1.9
PUNIT		54	100.0

SITE=532 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	8	13.8
CIBOLA WHT WARE	RESERVE B/W	5	8.6
CIBOLA WHT WARE	RED MESA B/W	6	10.3
CIBOLA WHT WARE	ESCAVADA B/W	2	3.4
CIBOLA WHT WARE	PUERCO B/W	3	5.2
CIBOLA WHT WARE	UNID CWN B/W	13	22.4
GRAY WARES	INDENTED CORR'D	15	25.9
GRAY WARES	BANDED NARROW	5	8.6
WHITE MTN RED	PUERCO B/R	1	1.7
PUNIT		58	100.0
SITE		112	200.0

SITE=533 PUNIT=I

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	3	11.5
BROWN WARES	PLAIN POLISHED	4	15.4
BROWN WARES	TOOLED CORR'D	2	7.7
BROWN WARES	FILLET RIM	1	3.8
CIBOLA WHT WARE	RESERVE B/W	4	15.4
CIBOLA WHT WARE	RED MESA B/W	3	11.5
GRAY WARES	INDENTED CORR'D	2	7.7
GRAY WARES	PLAIN GRAY	3	11.5
GRAY WARES	BANDED NARROW	1	3.8
WHITE MTN RED	ST. JOHNS B/R	3	11.5
PUNIT		26	100.0
SITE		26	100.0

SITE=534 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	NECKBANDED BRN	1	2.4
BROWN WARES	PLAIN CORRUGATED	1	2.4
BROWN WARES	INDENTED CORR'D	1	2.4
BROWN WARES	UNID BROWN	1	2.4
BROWN WARES	PL BR-SMUDGD INT	3	7.1
CIBOLA WHT WARE	RESERVE B/W	6	14.3
CIBOLA WHT WARE	TULAROSA B/W	1	2.4
CIBOLA WHT WARE	RES/TULA B/W	1	2.4
CIBOLA WHT WARE	PUERCO B/W	5	11.9
CIBOLA WHT WARE	GALLUP B/W	1	2.4
CIBOLA WHT WARE	UNID CWN B/W	4	9.5
CIBOLA WHT WARE	CIBOLA B/W	1	2.4
GRAY WARES	PLAIN CORRUGATED	2	4.8
GRAY WARES	INDENTED CORR'D	3	7.1
GRAY WARES	CLAPBOARD	1	2.4
WHITE MTN RED	PUERCO B/R	1	2.4
WHITE MTN RED	WINGATE B/R	2	4.8
WHITE MTN RED	ST. JOHNS B/R	3	7.1
WHITE MTN RED	KWAKINA POLY	1	2.4
WHITE MTN RED	UNIDENTIFIED WMR	3	7.1
PUNIT		42	100.0
SITE		42	100.0

SITE=535 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	16.7
BROWN WARES	INDENTED CORR'D	1	16.7
CIBOLA WHT WARE	RED MESA B/W	1	16.7
CIBOLA WHT WARE	PUERCO B/W	1	16.7
GRAY WARES	BANDED WIDE	1	16.7
WHITE MTN RED	PUERCO B/R	1	16.7
PUNIT		6	100.0
SITE		6	100.0

SITE=536 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	3	4.0
BROWN WARES	PLAIN POLISHED	1	1.3
BROWN WARES	PLAIN CORRUGATED	3	4.0
BROWN WARES	INDENTED CORR'D	6	8.0
BROWN WARES	PATTERN CORR'D	2	2.7
BROWN WARES	TOOLED CORR'D	1	1.3
BROWN WARES	FILLET RIM	3	4.0
CIBOLA WHT WARE	RESERVE B/W	13	17.3
CIBOLA WHT WARE	RED MESA B/W	3	4.0
CIBOLA WHT WARE	ESCAVADA B/W	1	1.3
CIBOLA WHT WARE	PUERCO B/W	2	2.7
CIBOLA WHT WARE	GALLUP B/W	4	5.3
CIBOLA WHT WARE	SOCORRO B/W	1	1.3
GRAY WARES	INDENTED CORR'D	10	13.3
GRAY WARES	PATTERN CORR'D	8	10.7
GRAY WARES	PLAIN GRAY	6	8.0
GRAY WARES	BANDED WIDE	1	1.3
GRAY WARES	BANDED NARROW	5	6.7
WHITE MTN RED	UNIDENTIFIED WMR	2	2.7
PUNIT		75	100.0
SITE		75	100.0

SITE=538 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	1	16.7
CIBOLA WHT WARE	UNID CWN B/W	2	33.3
GRAY WARES	INDENTED CORR'D	3	50.0
PUNIT		6	100.0
SITE		6	100.0

SITE=539 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	25.0
CIBOLA WHT WARE	UNID CWN B/W	3	75.0
PUNIT		4	100.0
SITE		4	100.0

SITE=541 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
WHITE MTN RED	ST. JOHNS B/R	1	100.0

SITE=542 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	UNID CWN B/W	1	100.0

SITE=543 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	1.6
BROWN WARES	PLAIN POLISHED	2	3.3
BROWN WARES	PLAIN CORRUGATED	2	3.3
BROWN WARES	INDENTED CORR'D	4	6.6
BROWN WARES	PATTERN CORR'D	1	1.6
BROWN WARES	TOOLED CORR'D	4	6.6
CIBOLA WHT WARE	RESERVE B/W	3	4.9
CIBOLA WHT WARE	TULAROSA B/W	2	3.3
CIBOLA WHT WARE	RES/TULA B/W	1	1.6
CIBOLA WHT WARE	RED MESA B/W	1	1.6
CIBOLA WHT WARE	PUERCO B/W	2	3.3
CIBOLA WHT WARE	GALLUP B/W	1	1.6
CIBOLA WHT WARE	UNID CWN B/W	10	16.4
CIBOLA WHT WARE	CHACO-MCELMO B/W	2	3.3
CIBOLA WHT WARE	KONINA B/W	3	4.9
GRAY WARES	INDENTED CORR'D	7	11.5
GRAY WARES	BANDED NARROW	3	4.9
WHITE MTN RED	PUERCO B/R	10	16.4
WHITE MTN RED	ST. JOHNS B/R	2	3.3
PUNIT		61	100.0

SITE=543 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	1.9
BROWN WARES	PLAIN POLISHED	2	3.8
BROWN WARES	PLAIN CORRUGATED	3	5.7
BROWN WARES	INDENTED CORR'D	6	11.3
BROWN WARES	PATTERN CORR'D	1	1.9
BROWN WARES	TOOLED CORR'D	6	11.3
CIBOLA WHT WARE	RESERVE B/W	5	9.4
CIBOLA WHT WARE	TULAROSA B/W	5	9.4
CIBOLA WHT WARE	RED MESA B/W	1	1.9
CIBOLA WHT WARE	PUERCO B/W	2	3.8
CIBOLA WHT WARE	GALLUP B/W	1	1.9
CIBOLA WHT WARE	UNID CWN B/W	3	5.7
GRAY WARES	INDENTED CORR'D	4	7.5
GRAY WARES	BANDED NARROW	3	5.7
WHITE MTN RED	PUERCO B/R	2	3.8
WHITE MTN RED	WINGATE B/R	2	3.8
WHITE MTN RED	WINGATE POLY	1	1.9
WHITE MTN RED	ST. JOHNS B/R	1	1.9
WHITE MTN RED	ST. JOHNS POLY	4	7.5
PUNIT		53	100.0

SITE=543 PUNIT=3

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	2.7
BROWN WARES	PLAIN POLISHED	2	5.4
CIBOLA WHT WARE	RESERVE B/W	6	16.2
CIBOLA WHT WARE	TULAROSA B/W	1	2.7
CIBOLA WHT WARE	RED MESA B/W	1	2.7
CIBOLA WHT WARE	PUERCO B/W	1	2.7
CIBOLA WHT WARE	GALLUP B/W	4	10.8
CIBOLA WHT WARE	UNID CWN B/W	10	27.0
GRAY WARES	INDENTED CORR'D	3	8.1
GRAY WARES	BANDED WIDE	2	5.4
GRAY WARES	BANDED NARROW	5	13.5
WHITE MTN RED	PUERCO B/R	1	2.7
PUNIT		37	100.0

SITE=543 PUNIT=4

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	2	25.0
CIBOLA WHT WARE	TULAROSA B/W	1	12.5
CIBOLA WHT WARE	RES/TULA B/W	1	12.5
CIBOLA WHT WARE	RED MESA B/W	2	25.0
GRAY WARES	INDENTED CORR'D	1	12.5
GRAY WARES	BANDED NARR SM	1	12.5
PUNIT		8	100.0

SITE=543 PUNIT=5

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	14.3
CIBOLA WHT WARE	RED MESA B/W	1	14.3
CIBOLA WHT WARE	WHITE MOUND B/W	1	14.3
GRAY WARES	INDENTED CORR'D	1	14.3
GRAY WARES	BANDED WIDE SM	1	14.3
GRAY WARES	BANDED NARR SM	1	14.3
GRAY WARES	INDENTED INCISED	1	14.3
PUNIT		7	100.0

SITE=543 PUNIT=6

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	16.7
CIBOLA WHT WARE	RED MESA B/W	1	16.7
CIBOLA WHT WARE	WHITE MOUND B/W	1	16.7
GRAY WARES	INDENTED CORR'D	1	16.7
GRAY WARES	BANDED WIDE SM	1	16.7
GRAY WARES	INDENTED INCISED	1	16.7
PUNIT		6	100.0

SITE=543 PUNIT=7

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	25.0
CIBOLA WHT WARE	WHITE MOUND B/W	1	25.0
GRAY WARES	INDENTED CORR'D	1	25.0
GRAY WARES	BANDED WIDE SM	1	25.0
PUNIT		4	100.0

SITE=543 PUNIT=8

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	33.3
GRAY WARES	INDENTED CORR'D	1	33.3
GRAY WARES	BANDED WIDE SM	1	33.3
PUNIT		3	100.0

SITE=543 PUNIT=9

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	20.0
CIBOLA WHT WARE	TULAROSA B/W	1	20.0
CIBOLA WHT WARE	RED MESA B/W	1	20.0
GRAY WARES	INDENTED CORR'D	1	20.0
GRAY WARES	BANDED WIDE SM	1	20.0
PUNIT		5	100.0

SITE=543 PUNIT=10

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	3	30.0
CIBOLA WHT WARE	TULAROSA B/W	2	20.0
CIBOLA WHT WARE	RED MESA B/W	1	10.0
CIBOLA WHT WARE	GALLUP B/W	2	20.0
GRAY WARES	INDENTED CORR'D	1	10.0
GRAY WARES	BANDED WIDE SM	1	10.0
PUNIT		10	100.0

SITE=543 PUNIT=11

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	20.0
CIBOLA WHT WARE	TULAROSA B/W	1	20.0
CIBOLA WHT WARE	RED MESA B/W	1	20.0
GRAY WARES	INDENTED CORR'D	1	20.0
GRAY WARES	BANDED WIDE SM	1	20.0
PUNIT		5	100.0
SITE		199	1100

SITE=544 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	2	7.1
BROWN WARES	INDENTED CORR'D	3	10.7
CIBOLA WHT WARE	RESERVE B/W	3	10.7
CIBOLA WHT WARE	RED MESA B/W	3	10.7
CIBOLA WHT WARE	PUERCO B/W	3	10.7
CIBOLA WHT WARE	GALLUP B/W	1	3.6
CIBOLA WHT WARE	UNID CWN B/W	5	17.9
GRAY WARES	INDENTED CORR'D	3	10.7
GRAY WARES	BANDED NARROW	1	3.6
GRAY WARES	BANDED NARR SM	2	7.1
WHITE MTN RED	PUERCO B/R	2	7.1
PUNIT		28	100.0
SITE		28	100.0

SITE=545 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	8.3
CIBOLA WHT WARE	RED MESA B/W	2	16.7
CIBOLA WHT WARE	PUERCO B/W	1	8.3
CIBOLA WHT WARE	GALLUP B/W	1	8.3
CIBOLA WHT WARE	UNID CWN B/W	5	41.7
GRAY WARES	INDENTED CORR'D	1	8.3
WHITE MTN RED	PUERCO B/R	1	8.3
PUNIT		12	100.0
SITE		12	100.0

SITE=546 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	4	66.7
DEC'D BROWN, ETC	PLAIN RED WARE	2	33.3
PUNIT		6	100.0

SITE=546 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	6	2.9
CIBOLA WHT WARE	RED MESA B/W	1	0.5
CIBOLA WHT WARE	PUERCO B/W	3	1.5
CIBOLA WHT WARE	GALLUP B/W	6	2.9
CIBOLA WHT WARE	UNID CWN B/W	14	6.9
CIBOLA WHT WARE	CHACO-MCELMO B/W	1	0.5
CIBOLA WHT WARE	CEBOLLETA B/W	1	0.5
GRAY WARES	INDENTED CORR'D	10	4.9
GRAY WARES	PLAIN GRAY	5	2.5
GRAY WARES	BANDED WIDE	7	3.4
GRAY WARES	BANDED NARROW	150	73.5
PUNIT		204	100.0
SITE		210	200.0

SITE=547 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	UNID CHN B/W	5	100.0

SITE=547 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	UNID CHN B/W	4	100.0
SITE		9	200.0

SITE=549 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	2	11.8
CIBOLA WHT WARE	PUERCO B/W	5	29.4
CIBOLA WHT WARE	UNID CHN B/W	3	17.6
GRAY WARES	UNID GRAY	4	23.5
GRAY WARES	BANDED NARR SM	3	17.6
PUNIT		17	100.0
SITE		17	100.0

SITE=550 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	PUERCO B/W	40	76.9
CIBOLA WHT WARE	UNID CHN B/W	9	17.3
GRAY WARES	UNID GRAY	3	5.8
PUNIT		52	100.0
SITE		52	100.0

SITE=552 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	10	76.9
CIBOLA WHT WARE	UNID CHN B/W	1	7.7
GRAY WARES	INDENTED CORR'D	1	7.7
GRAY WARES	UNID GRAY	1	7.7
PUNIT		13	100.0
SITE		13	100.0

SITE=553 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	UNID CHN B/W	3	100.0

SITE=554 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	2.9
CIBOLA WHT WARE	RED MESA B/W	4	11.4
CIBOLA WHT WARE	PUERCO B/W	2	5.7
CIBOLA WHT WARE	GALLUP B/W	1	2.9
CIBOLA WHT WARE	UNID CHN B/W	10	28.6
GRAY WARES	INDENTED CORR'D	1	2.9
GRAY WARES	PLAIN GRAY	10	28.6
GRAY WARES	OBLIT'D CORR'D	2	5.7
GRAY WARES	BANDED WIDE	2	5.7
GRAY WARES	BANDED NARR SM	2	5.7
PUNIT		35	100.0
SITE		35	100.0

SITE=555 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	2	15.4
CIBOLA WHT WARE	PUERCO B/W	3	23.1
CIBOLA WHT WARE	UNID CHN B/W	3	23.1
GRAY WARES	PLAIN GRAY	5	38.5
PUNIT		13	100.0
SITE		13	100.0

SITE=556 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	3	13.0
CIBOLA WHT WARE	RES/TULA B/W	2	8.7
CIBOLA WHT WARE	RED MESA B/W	1	4.3
CIBOLA WHT WARE	PUERCO B/W	2	8.7
CIBOLA WHT WARE	GALLUP B/W	1	4.3
CIBOLA WHT WARE	UNID CHN B/W	4	17.4
GRAY WARES	INDENTED CORR'D	4	17.4
GRAY WARES	UNID GRAY	5	21.7
WHITE MTN RED	PUERCO B/R	1	4.3
PUNIT		23	100.0
SITE		23	100.0

SITE=559 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	5	6.0
BROWN WARES	PLAIN CORRUGATED	1	1.2
BROWN WARES	INDENTED CORR'D	6	7.2
BROWN WARES	FILLET RIM	4	4.8
CIBOLA WHT WARE	RESERVE B/W	4	4.8
CIBOLA WHT WARE	RES/TULA B/W	1	1.2
CIBOLA WHT WARE	PUERCO B/W	4	4.8
CIBOLA WHT WARE	GALLUP B/W	5	6.0
CIBOLA WHT WARE	UNID CHN B/W	10	12.0
CIBOLA WHT WARE	KLAGETOH B/W	2	2.4
GRAY WARES	INDENTED CORR'D	6	7.2
GRAY WARES	UNID GRAY	3	3.6
WHITE MTN RED	PUERCO B/R	3	3.6
WHITE MTN RED	ST. JOHNS B/R	4	4.8
WHITE MTN RED	ST. JOHNS POLY	20	24.1
WHITE MTN RED	UNIDENTIFIED WMR	5	6.0
PUNIT		83	100.0
SITE		83	100.0

SITE=560 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	7	13.0
BROWN WARES	PLAIN POLISHED	2	3.7
BROWN WARES	PLAIN CORRUGATED	1	1.9
BROWN WARES	INDENTED CORR'D	2	3.7
BROWN WARES	FILLET RIM	3	5.6
CIBOLA WHT WARE	RESERVE B/W	5	9.3
CIBOLA WHT WARE	TULAROSA B/W	2	3.7
CIBOLA WHT WARE	PUERCO B/W	1	1.9
CIBOLA WHT WARE	GALLUP B/W	3	5.6
CIBOLA WHT WARE	UNID CHN B/W	6	11.1
CIBOLA WHT WARE	CEBOLLETA B/W	3	5.6
GRAY WARES	PLAIN CORRUGATED	4	7.4
GRAY WARES	INDENTED CORR'D	10	18.5
WHITE MTN RED	PUERCO B/R	5	9.3
PUNIT		54	100.0
SITE		54	100.0

SITE=561 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	1	4.8
CIBOLA WHT WARE	RESERVE B/W	3	14.3
CIBOLA WHT WARE	PUERCO B/W	1	4.8
CIBOLA WHT WARE	UNID CHN B/W	3	14.3
CIBOLA WHT WARE	KLAGETOH B/W	1	4.8
GRAY WARES	INDENTED CORR'D	5	23.8
GRAY WARES	UNID GRAY	5	23.8
WHITE MTN RED	PUERCO B/R	2	9.5
PUNIT		21	100.0
SITE		21	100.0

SITE=563 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
GRAY WARES	INDENTED CORR'D	1	50.0
GRAY WARES	PLAIN GRAY	1	50.0
PUNIT		2	100.0
SITE		2	100.0

SITE=564 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	5	26.3
CIBOLA WHT WARE	PUERCO B/W	10	52.6
CIBOLA WHT WARE	UNID CHW B/W	4	21.1
PUNIT		19	100.0
SITE		19	100.0

SITE=565 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	2	2.7
BROWN WARES	PATTERN CORR'D	5	6.8
CIBOLA WHT WARE	RESERVE B/W	1	1.4
CIBOLA WHT WARE	TULAROSA B/W	2	2.7
CIBOLA WHT WARE	RES/TULA B/W	4	5.4
CIBOLA WHT WARE	R.M./GALLUP B/W	2	2.7
CIBOLA WHT WARE	UNID CHW B/W	12	16.2
GRAY WARES	INDENTED CORR'D	20	27.0
GRAY WARES	UNID GRAY	15	20.3
GRAY WARES	BANDED NARROW	7	9.5
GRAY WARES	BANDED NARR SM	1	1.4
WHITE MTN RED	ST. JOHNS B/R	1	1.4
WHITE MTN RED	ST. JOHNS POLY	1	1.4
WHITE MTN RED	UNIDENTIFIED WMR	1	1.4
PUNIT		74	100.0

SITE=565 PUNIT=3

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	5	3.4
BROWN WARES	PLAIN POLISHED	16	10.9
BROWN WARES	PLAIN CORRUGATED	22	15.0
BROWN WARES	INDENTED CORR'D	12	8.2
BROWN WARES	PATTERN CORR'D	5	3.4
BROWN WARES	TOOLED CORR'D	3	2.0
BROWN WARES	UNID BROWN	2	1.4
CIBOLA WHT WARE	RESERVE B/W	9	6.1
CIBOLA WHT WARE	TULAROSA B/W	2	1.4
CIBOLA WHT WARE	RES/TULA B/W	2	1.4
CIBOLA WHT WARE	RED MESA B/W	1	0.7
CIBOLA WHT WARE	PUERCO B/W	3	2.0
CIBOLA WHT WARE	GALLUP B/W	5	3.4
CIBOLA WHT WARE	UNID CHW B/W	8	5.4
CIBOLA WHT WARE	CHACO-MCELMO B/W	1	0.7
CIBOLA WHT WARE	CHACO B/W	1	0.7
GRAY WARES	INDENTED CORR'D	10	6.8
GRAY WARES	PLAIN GRAY	10	6.8
GRAY WARES	UNID GRAY	8	5.4
GRAY WARES	BANDED WIDE	3	2.0
WHITE MTN RED	PUERCO B/R	5	3.4
WHITE MTN RED	ST. JOHNS B/R	7	4.8
WHITE MTN RED	ST. JOHNS POLY	4	2.7
WHITE MTN RED	UNIDENTIFIED WMR	3	2.0
PUNIT		147	100.0
SITE		221	200.0

SITE=566 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	3	4.5
BROWN WARES	PLAIN POLISHED	13	19.7
BROWN WARES	PLAIN CORRUGATED	1	1.5
BROWN WARES	INDENTED CORR'D	7	10.6
BROWN WARES	PATTERN CORR'D	18	27.3
CIBOLA WHT WARE	PUERCO B/W	1	1.5
GRAY WARES	INDENTED CORR'D	16	24.2
GRAY WARES	UNID GRAY	3	4.5
GRAY WARES	BANDED WIDE	4	6.1
PUNIT		66	100.0

SITE=567 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	1.7
BROWN WARES	PLAIN POLISHED	11	19.0
BROWN WARES	PLAIN CORRUGATED	10	17.2
BROWN WARES	INDENTED CORR'D	3	5.2
BROWN WARES	PATTERN CORR'D	3	5.2
CIBOLA WHT WARE	RESERVE B/W	7	12.1
CIBOLA WHT WARE	RES/TULA B/W	1	1.7
CIBOLA WHT WARE	RED MESA B/W	2	3.4
CIBOLA WHT WARE	PUERCO B/W	2	3.4
CIBOLA WHT WARE	GALLUP B/W	1	1.7
CIBOLA WHT WARE	KOMINA B/W	1	1.7
CIBOLA WHT WARE	KLAGETOH B/W	1	1.7
GRAY WARES	INDENTED CORR'D	4	6.9
GRAY WARES	UNID GRAY	4	6.9
GRAY WARES	BANDED NARROW	3	5.2
GRAY WARES	BANDED WIDE SM	1	1.7
WHITE MTN RED	ST. JOHNS B/R	2	3.4
WHITE MTN RED	UNID WMR POLY	1	1.7
PUNIT		58	100.0
SITE		58	100.0

SITE=568 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN CORRUGATED	2	22.2
BROWN WARES	PATTERN CORR'D	1	11.1
CIBOLA WHT WARE	RESERVE B/W	1	11.1
GRAY WARES	INDENTED CORR'D	2	22.2
GRAY WARES	BANDED NARROW	3	33.3
PUNIT		9	100.0
SITE		9	100.0

SITE=569 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	2	20.0
GRAY WARES	INDENTED CORR'D	5	50.0
WHITE MTN RED	PUERCO B/R	3	30.0
PUNIT		10	100.0

SITE=569 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
SITE	10		100.0

SITE=576 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	NECKBANDED BRN	1	2.0
BROWN WARES	PLAIN CORRUGATED	5	9.8
BROWN WARES	INDENTED CORR'D	5	9.8
BROWN WARES	OBLIT'D CORR'D	2	3.9
CIBOLA WHT WARE	RESERVE B/W	8	15.7
CIBOLA WHT WARE	TULAROSA B/W	5	9.8
CIBOLA WHT WARE	RES/TULA B/W	1	2.0
CIBOLA WHT WARE	RED MESA B/W	1	2.0
CIBOLA WHT WARE	GALLUP B/W	1	2.0
GRAY WARES	INDENTED CORR'D	10	19.6
WHITE MTN RED	PUERCO B/R	7	13.7
WHITE MTN RED	ST. JOHNS B/R	5	9.8
PUNIT		51	100.0
SITE		51	100.0

SITE=577 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	12.5
GRAY WARES	PLAIN GRAY	2	25.0
GRAY WARES	BANDED NARROW	4	50.0
WHITE MTN RED	PUERCO B/R	1	12.5
PUNIT		8	100.0
SITE		8	100.0

SITE=579 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	6	7.1
BROWN WARES	PLAIN CORRUGATED	6	7.1
BROWN WARES	INDENTED CORR'D	5	5.9
BROWN WARES	FILLET RIM	5	5.9
CIBOLA WHT WARE	RESERVE B/W	7	8.2
CIBOLA WHT WARE	TULAROSA B/W	1	1.2
CIBOLA WHT WARE	RES/TULA B/W	6	7.1
CIBOLA WHT WARE	RED MESA B/W	4	4.7
CIBOLA WHT WARE	PUERCO B/W	3	3.5
CIBOLA WHT WARE	UNID CHW B/W	7	8.2
CIBOLA WHT WARE	CHACO B/W	1	1.2
GRAY WARES	INDENTED CORR'D	5	5.9
GRAY WARES	PLAIN GRAY	10	11.8
GRAY WARES	UNID GRAY	5	5.9
GRAY WARES	BANDED WIDE	1	1.2
GRAY WARES	BANDED NARROW	5	5.9
WHITE MTN RED	PUERCO B/R	2	2.4
WHITE MTN RED	ST. JOHNS B/R	3	3.5
WHITE MTN RED	UNIDENTIFIED WMR	3	3.5
PUNIT		85	100.0
SITE		85	100.0

SITE=580 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	50.0
GRAY WARES	PLAIN GRAY	1	50.0
PUNIT		2	100.0
SITE		2	100.0

SITE=581 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	2	18.2
CIBOLA WHT WARE	PUERCO B/W	1	9.1
CIBOLA WHT WARE	SOCORRO B/W	1	9.1
GRAY WARES	INDENTED CORR'D	3	27.3
GRAY WARES	PLAIN GRAY	3	27.3
GRAY WARES	BANDED NARROW	1	9.1
PUNIT		11	100.0
SITE		11	100.0

SITE=582 PUNIT=I

WARE	CTYPE	COUNT	PERCENT
GRAY WARES	INDENTED CORR'D	3	100.0

SITE=582 PUNIT=2

WARE	CTYPE	COUNT	PERCENT
GRAY WARES	INDENTED CORR'D	2	100.0
SITE		5	200.0

SITE=583 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	20.0
GRAY WARES	INDENTED CORR'D	3	60.0
WHITE MTN RED	ST. JOHNS B/R	1	20.0
PUNIT		5	100.0
SITE		5	100.0

SITE=586 PUNIT=I

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	6	9.5
BROWN WARES	FILLET RIM	1	1.6
CIBOLA WHT WARE	RESERVE B/W	2	3.2
CIBOLA WHT WARE	TULAROSA B/W	6	9.5
CIBOLA WHT WARE	RES/TULA B/W	8	12.7
CIBOLA WHT WARE	RED MESA B/W	3	4.8
CIBOLA WHT WARE	GALLUP B/W	3	4.8
CIBOLA WHT WARE	SOCORRO B/W	2	3.2
CIBOLA WHT WARE	R.M./GALLUP B/W	2	3.2
CIBOLA WHT WARE	UNID CWW B/W	3	4.8
CIBOLA WHT WARE	SNOWFLAKE B/W	1	1.6
CIBOLA WHT WARE	KLAGETOH B/W	3	4.8
GRAY WARES	INDENTED CORR'D	10	15.9
GRAY WARES	PLAIN GRAY	5	7.9
GRAY WARES	BANDED NARROW	3	4.8
WHITE MTN RED	WINGATE B/R	1	1.6
WHITE MTN RED	ST. JOHNS B/R	2	3.2
WHITE MTN RED	UNIDENTIFIED WMR	2	3.2
PUNIT		63	100.0
SITE		63	100.0

SITE=587 PUNIT=I

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	12.5
CIBOLA WHT WARE	PUERCO B/W	1	12.5
GRAY WARES	INDENTED CORR'D	2	25.0
GRAY WARES	PLAIN GRAY	4	50.0
PUNIT		8	100.0
SITE		8	100.0

SITE=588 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	UNID CWW B/W	1	100.0

SITE=589 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	0.9
BROWN WARES	PLAIN POLISHED	1	0.9
BROWN WARES	PLAIN CORRUGATED	3	2.8
BROWN WARES	INDENTED CORR'D	6	5.6
CIBOLA WHT WARE	RESERVE B/W	9	8.4
CIBOLA WHT WARE	TULAROSA B/W	7	6.5
CIBOLA WHT WARE	RES/TULA B/W	4	3.7
CIBOLA WHT WARE	RED MESA B/W	3	2.8
CIBOLA WHT WARE	ESCAVADA B/W	2	1.9
CIBOLA WHT WARE	PUERCO B/W	8	7.5
CIBOLA WHT WARE	GALLUP B/W	2	1.9
CIBOLA WHT WARE	MIMBRES B/W	1	0.9
CIBOLA WHT WARE	KOHINA B/W	1	0.9
CIBOLA WHT WARE	KLAGETOH B/W	1	0.9
DEC'D BROWN, ETC	SAN FRAN RED	1	0.9
GRAY WARES	INDENTED CORR'D	20	18.7
GRAY WARES	PLAIN GRAY	15	14.0
GRAY WARES	BANDED NARROW	12	11.2
GRAY WARES	MICACEOUS GRAY	1	0.9
WHITE MTN RED	PUERCO B/R	5	4.7
WHITE MTN RED	ST. JOHNS B/R	4	3.7
PUNIT		107	100.0
SITE		107	100.0

SITE=590 PUNIT=I

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	3	42.9
GRAY WARES	BANDED NARROW	4	57.1
PUNIT		7	100.0
SITE		7	100.0

SITE=593 PUNIT=I

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	1	2.9
BROWN WARES	PLAIN POLISHED	2	5.9
BROWN WARES	INDENTED CORR'D	1	2.9
BROWN WARES	FILLET RIM	1	2.9
CIBOLA WHT WARE	RESERVE B/W	2	5.9
CIBOLA WHT WARE	TULAROSA B/W	2	5.9
CIBOLA WHT WARE	RES/TULA B/W	2	5.9
CIBOLA WHT WARE	PUERCO B/W	4	11.8
GRAY WARES	PLAIN GRAY	5	14.7
GRAY WARES	BANDED NARROW	3	8.8
GRAY WARES	BANDED NARR SM	5	14.7
WHITE MTN RED	PUERCO B/R	1	2.9
WHITE MTN RED	WINGATE B/R	3	8.8
WHITE MTN RED	ST. JOHNS B/R	1	2.9
WHITE MTN RED	ST. JOHNS POLY	1	2.9
		34	100.0
		34	100.0

SITE=598 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	2	6.1
BROWN WARES	INDENTED CORR'D	1	3.0
BROWN WARES	PATTERN CORR'D	1	3.0
CIBOLA WHT WARE	RESERVE B/W	3	9.1
CIBOLA WHT WARE	TULAROSA B/W	3	9.1
CIBOLA WHT WARE	UNID CHW B/W	1	3.0
GRAY WARES	INDENTED CORR'D	4	12.1
GRAY WARES	UNID GRAY	5	15.2
WHITE MTN RED	PUERCO B/R	2	6.1
WHITE MTN RED	ST. JOHNS B/R	3	9.1
WHITE MTN RED	ST. JOHNS POLY	8	24.2
PUNIT		33	100.0
SITE		33	100.0

SITE=599 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN BROWN	2	3.6
BROWN WARES	PLAIN POLISHED	5	8.9
BROWN WARES	PATTERN CORR'D	4	7.1
BROWN WARES	FILLET RIM	2	3.6
CIBOLA WHT WARE	RESERVE B/W	3	5.4
CIBOLA WHT WARE	TULAROSA B/W	4	7.1
CIBOLA WHT WARE	RES/TULA B/W	3	5.4
CIBOLA WHT WARE	SNOWFLAKE B/W	3	5.4
CIBOLA WHT WARE	KLAGETOH B/W	2	3.6
DEC'D BROWN, ETC	PLAIN RED WARE	1	1.8
DEC'D BROWN, ETC	SAN FRAN RED	2	3.6
GRAY WARES	INDENTED CORR'D	5	8.9
GRAY WARES	PLAIN GRAY	5	8.9
WHITE MTN RED	PUERCO B/R	2	3.6
WHITE MTN RED	WINGATE B/R	1	1.8
WHITE MTN RED	ST. JOHNS B/R	6	10.7
WHITE MTN RED	ST. JOHNS POLY	5	8.9
WHITE MTN RED	SPRINGERVILLE POLY	1	1.8
PUNIT		56	100.0
SITE		56	100.0

SITE=600 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	INDENTED CORR'D	2	8.7
CIBOLA WHT WARE	RESERVE B/W	2	8.7
CIBOLA WHT WARE	TULAROSA B/W	4	17.4
GRAY WARES	INDENTED CORR'D	5	21.7
WHITE MTN RED	WINGATE B/R	2	8.7
WHITE MTN RED	ST. JOHNS B/R	8	34.8
PUNIT		23	100.0
SITE		23	100.0

SITE=601 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	1	7.7
CIBOLA WHT WARE	TULAROSA B/W	2	15.4
CIBOLA WHT WARE	UNID CHW B/W	3	23.1
GRAY WARES	INDENTED CORR'D	5	38.5
WHITE MTN RED	ST. JOHNS B/R	1	7.7
WHITE MTN RED	ST. JOHNS POLY	1	7.7
PUNIT		13	100.0
SITE		13	100.0

SITE=603 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	5	23.8
CIBOLA WHT WARE	RES/TULA B/W	1	4.8
CIBOLA WHT WARE	PUERCO B/W	1	4.8
GRAY WARES	INDENTED CORR'D	8	38.1
GRAY WARES	PLAIN GRAY	5	23.8
WHITE MTN RED	PUERCO B/R	1	4.8
PUNIT		21	100.0
SITE		21	100.0

SITE=604 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
BROWN WARES	PLAIN POLISHED	1	9.1
CIBOLA WHT WARE	RESERVE B/W	2	18.2
CIBOLA WHT WARE	RED MESA B/W	1	9.1
CIBOLA WHT WARE	PUERCO B/W	1	9.1
GRAY WARES	INDENTED CORR'D	5	45.5
WHITE MTN RED	UNIDENTIFIED WMR	1	9.1
PUNIT		11	100.0

SITE=604 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
SITE		11	100.0

SITE=605 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
GRAY WARES	INDENTED CORR'D	3	60.0
WHITE MTN RED	PUERCO B/R	1	20.0
WHITE MTN RED	ST. JOHNS POLY	1	20.0
PUNIT		5	100.0
SITE		5	100.0

SITE=606 PUNIT=1

WARE	CTYPE	COUNT	PERCENT
CIBOLA WHT WARE	RESERVE B/W	3	23.1
CIBOLA WHT WARE	RED MESA B/W	1	7.7
CIBOLA WHT WARE	PUERCO B/W	1	7.7
GRAY WARES	INDENTED CORR'D	5	38.5
GRAY WARES	PLAIN GRAY	2	15.4
GRAY WARES	UNID GRAY	1	7.7
PUNIT		13	100.0
SITE		13	100.0
		3486	12100

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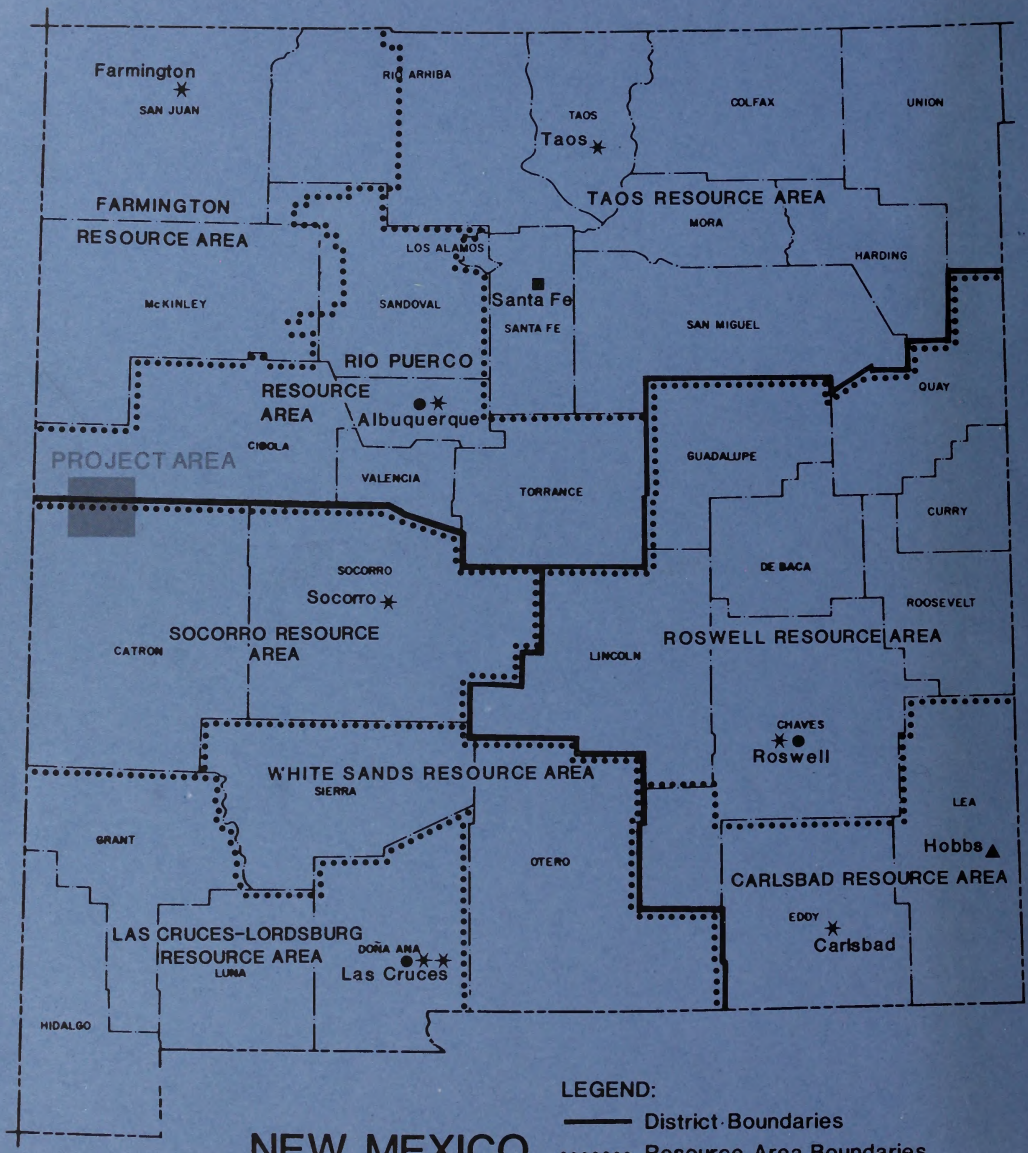
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